

Aviation News

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DEC. 17, 1945

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Asks action giving greater flexibility to armed forces in promoting development and procurement.....Page 7

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U.S.-British agreement clouded

Despite loan, "working arrangement" on air service appears most that can be achieved now.....Page 39



Trophy Winner: Gen. Carl A. Spaatz has been awarded the Robert J. Collier Trophy for 1944 for his direction of the U. S. Strategic Air Forces in Europe. The trophy was to be presented to Gen. Spaatz today by President Truman on behalf of the National Aeronautic Association, custodian of the award.



New World Standard

The claim is proved. Lockheed Constellations will bring new world standards in air transportation to every country on every continent. In regular scheduled service first on these great airlines:

AMERICAN AIRLINES OVERSEAS

EASTERN AIR LINES

FRENCH GOVERNMENT AIRLINES

ROYAL DUTCH AIR LINES (KLM)

NETHERLANDS INDIES AIRLINES (K.N.I.M.)

PAN AMERICAN WORLD AIRWAYS

PAN AMERICAN-GRACE AIRWAYS (PANAGRA)

TRANSCONTINENTAL & WESTERN AIR (TWA)

THE NEW AIRLINE STANDARD

Lockheed Constellation

Look to Lockheed for Leadership. *Twenty Years Ahead in the Science of Flight*

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THE AVIATION NEWS

Washington Observer



AAF AND PEOPLE—Heralding a forthcoming drive to take the case for a strong, autonomous air force to the people, Gen. Amold has voiced the first public criticism by a high AAF officer of the popular demand for demobilization. "The AAF is disintegrating," Amold says, "because the people want disintegration." The counterattack will be a public relations program, conducted by an outside organization but with AAF approval and support, stressing air power and air defense, and unification of the military services.

SUPERMAN COMPLEX—The superman complex still is a major obstacle in the progress of private flying in the opinion of some CAA officials in that field. It started back in World War I when pilots were sold and believed that they were beyond conquest. The superior attitude of some instructors and the inadequate premises and services found at some fields, seen from the misguided notion of some aviation advocates that aviation is for an exclusive few. In fact, one official said, many youngsters and old ladies can fly and as nothing for a person to feel heroic about.

AIR POWER LEAGUE—The Air Power League will not figure directly in this new campaign, which will be headed by a nationally-known aviation figure. APL has had its internal troubles, with the least split on unification. For a while it was flirting with the Navy for support in its air defense efforts, but APL's trend toward unification has left the Navy cold. APL will quietly support unification, but concentrate on promoting air defense and let the new group carry the ball on the merger fight.

TIC TRANSFER—A decision is expected shortly on whether TIC—Technical Intelligence Branch—will remain under military jurisdiction or be transferred to the Commerce Department, which at present is releasing all reports available in this field. Most observers in Washington believe that Commerce will win the contest for this branch, a move that would make technical data in these reports more readily available to industry. The military will be fretting over "reinsured" and "confidential" which even in war-time never had too high a security rating.

POST-WAR MILITARY POLICY—After a relatively uneventful existence, the House Committee on Post-war Military Policy has ceased to exist. Composed of top-ranking members of the House military and naval affairs committees and the Appropriations committee, which created it, it proved to be a powerful force. It was somewhat stymied, however, because of conflicting views between Naval and Military representatives. Resignation from Congress of Rep. Clifford Woodruff, chairman, was a factor in the decision to disband.

LEND-LEASE SETTLEMENT—Coming up is an announcement regarding a settlement with Great Britain on transports that country received under Lend-Lease. While financial consideration involved will be part of the \$500,000,000 Lend-Lease credit in the loan to Great Britain, the details will reveal types and numbers of transports England is retaining and the "price" of each. Britain has received 1,864 DC's and 11 C-54's under Lend-Lease, and is expected to keep approximately two-thirds.



This Curtiss XF14C, experimental Navy fighter, never went in mass production.



INDUSTRY OBSERVER—5



"The Modern Magic Carpet"

LIKE the magic carpet of Arabian Nights, the Bell helicopter will offer a new concept of flying. For these helicopters can fly forward... backward... sideways... and ascend and descend vertically. They can land in or take off from otherwise inaccessible terrain. They can carry passengers and cargo from door to door. They can hover motionless in the air to

perform specialized functions. Truly here is an aircraft that will become "The Modern Magic Carpet."

The Bell helicopter, as present, are being developed to replace the ferry pilotless, military and industrial and military applications—the public service of a land which only the helicopter can perform. And Bell Aircraft

engineering is conclusive evidence that they incorporate the advanced thinking in design and workmanship which has won this company its reputation of being the "Pacesetter of Aviation Progress."

**By capital for U.S. and foreign foreign countries*



BELL Aircraft CORPORATION
Buffalo 3, New York
PACEMAKER OF AVIATION PROGRESS

AIA Urges New Legislation To Promote Aviation Research

Asks action giving greater flexibility to armed forces in promoting development and procurement to provide sound basis for public and private financing which is essential to continued leadership.

By SCOTT HERSEY

Leaders of the aircraft industry have concluded that to implement our air policy a long-term continuing program of research, development, procurement and service operations is necessary to provide a basis for public and private financing so essential to continued leadership in commerce and industry.

The Aircraft Industries Association, meeting in annual session in Los Angeles, held that in order to carry out such a program, new legislation is necessary to provide the maximum flexibility to the armed forces in their task of promoting scientific research and technological development and procuring superior weapons.

Security—The security of this country and the peace of the world require that the cooperative effort between science, government and industry be continued, in the words of Raymond E. Wilson, retiring president of the association and vice-chairman of United Aircraft Corp.

A statement of policy on international airworthiness which came out of the meeting declared that the aircraft manufacturing industry believes that a set of basic international airworthiness standards is a desirable objective. Such standards, the statement said, should be applied only to scheduled passenger or scheduled cargo aircraft.

Safety—The statement held that such international standards should be based solely on safety considerations limited to: 1. Structural integrity standards sufficient only to define basic loading conditions for which the airplane structure must be designed; 2. Per-

formance standards defining major emergency operating conditions; 3. Powerplant and equipment requirements necessary to maintain a proper level of safety.

The association's board of governors approved the report of the president and staff which detailed the handling of survival and emergency problems and the program for meeting these problems in 1946.

Funds—It also agreed to appropriate funds to carry out next year's activities, leaving determination of the financial program to a special committee composed

of LeMotte T. Cobb, new AIA president and chairman of Northrup; Harry Woodruff, president of Consolidated Vultee; Alfred Marschke, president of Republic Aviation; and W. T. Piper, president of Piper Aircraft, and Wilson who becomes chairman of the AIA board.

This committee, composed of two West Coast manufacturers, two East Coast manufacturers, with Piper as chairman, indicates some difference of opinion on the AIA budget for 1946. This subject occupied considerable time and attention at the Los Angeles meeting, but industries are, however, that while the members will support a strong national trade association, some of the activities may be limited. As a trend in this direction, the board approved a decision of the eastern companies to abolish the New York office. Eastern company meetings and activities hereafter will be coordinated by the Washington office.

Policy—The statement of policy on international airworthiness in-



RADAR-GUIDED "BAT BOMB":

Came under the wings of many Privateer bombers, these radar-guided bombs were launched outside the range of Jap anti-aircraft fire and glided to their target. Called "bats" because they operated on the same principle as the animals which emit short pulses of sound and guide themselves by the echo, the bombs were aimed by the mother plane but then guided themselves to their target, following it despite any evasive action. The bombs were approximately 12 ft long and had a 10-ft. wingspan.

voled): 1, the encouragement of mutual cooperation among nations; 2, respect for the rights of all nations; 3, development of international air transportation; 4, minimizing restrictions on free trade and free vision for future developments.

The board also approved the formation of the National Aircraft Show Committee, which recommended that AIA sponsor two national aircraft shows a year, starting in the fall of 1968, a situation discussed elsewhere on this page.

Advertising.—The board returned back to individual companies a proposed airport advertising and sales promotion program. The association, as such, will not sponsor such a campaign but it is probable that a group of member companies interested in this field may get together on such a program.

Cohn Is Named AIA President

LaMorle T. Cohn, general manager and chairman of the board of Northrop Aircraft, Inc., is the new president of the Aircraft Industries Association. He succeeds Eugene E. Wilson, vice-chairman of United Aircraft Corp., who becomes chairman of the AIA board of governors succeeding Donald W. Douglas, head of Douglas Aircraft

AIA to Sponsor Only Two Shows

Only two national air shows annually will be officially sponsored by the Aircraft Industries Association.

Leading manufacturers, members of the association meeting in Los Angeles, decided the AIA should sanction two members' participation in shows in order that they might be protected from the expense and trouble of participation in many shows which actually would be of no benefit to the industry.

Requests.—Demanded by requests from various cities for contributions and participation, the manufacturers finally agreed to officially sanction only two shows, neither to be held before the fall of next year and both to be national shows, one primarily in New York, the other in Los Angeles.

The decision was reached only after a considerable discussion in which the possible benefits to a number of regional or local shows was given serious consideration.

The show committee determined that it would be impossible to set up a satisfactory number of regional shows, that the expense involved would be an unnecessary burden if members were asked to participate, that even more important than

the actual expense is the fact that the displays in many of these regional shows would be on key sales and personnel who are needed in working out problems involved in getting into production and that it would also be an demonstration equipment which would be needed.

Local Shows.—It was agreed, however, that there would be no objection to regional or local shows being held in which displays would be furnished by dealers or distributors as long as they entered no expense or participation on the part of the manufacturer.

Ernest R. Breach, president of Bendix Aviation Corp. and chairman of the Air Show Committee, explained the manufacturer's inability to participate in exhibits or shows before next fall simply because they will not be ready to display their products.

Other members of the AIA Show Committee are: Harry Woodman, president, Consolidated Aircraft, Inc.; James H. Stinson, director, Consolidated Vultee; Lee Smith, Purchased Engine & Airplane, Inc.; L. B. Lippman, president, Aircraft Corp.; M. M. Hechler, Douglas Aircraft, and Frederick Collins, Boeing.

quarters Gen Twining as the former commander of the 13th, 15th and 35th Air Forces and lately has been commander of Continental Air Force, Washington.

AVIATION CALENDAR

- Jan. 14-15—International Airshow, Des. El.
- Jan. 20—Regional Airshow, Des. El.
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- Dec. 15—Regional Airshow, Des. El.
- Dec. 16—Regional Airshow, Des. El.
- Dec. 17—Regional Airshow, Des. El.
- Dec. 18—Regional Airshow, Des. El.
- Dec. 19—Regional Airshow, Des. El.
- Dec. 20—Regional Airshow, Des. El.
- Dec. 21—Regional Airshow, Des. El.
- Dec. 22—Regional Airshow, Des. El.
- Dec. 23—Regional Airshow, Des. El.
- Dec. 24—Regional Airshow, Des. El.
- Dec. 25—Regional Airshow, Des. El.
- Dec. 26—Regional Airshow, Des. El.
- Dec. 27—Regional Airshow, Des. El.
- Dec. 28—Regional Airshow, Des. El.
- Dec. 29—Regional Airshow, Des. El.
- Dec. 30—Regional Airshow, Des. El.
- Dec. 31—Regional Airshow, Des. El.

Twining Replaces Kneer

Lt. Gen. Nathan F. Twining has taken over command of the Air Technical Service Command headquarters at Wright Field, replacing Maj. Gen. Hugh J. Kneer, who has returned to his regular assignment to AAF head-

XB-42 Flight Gives Demonstration Of Propeller-In-Tail Advantages

432-mph. average speed seems to justify earlier claims of efficiency gain through keeping wings clear of nacelles; craft has 5,000-mile range, carries four tons of bombs.

The prototype of the possible design of most future bomber and transport aircraft gave a convincing demonstration of its inherent advantages when the Douglas-built XB-42 established a new cross-country, non-city speed record of 432 mph in 37 minutes and 34 seconds between Long Beach, Calif., and Washington, D. C.

When closed over Balling Field at the end of the flight, the plane was traveling at 448 mph. It had averaged 452 mph over the 2,200-mile distance.

Performance.—Its performance seemed to justify previous assertions by Douglas and AAF that because of the aerodynamic location of propellers in the tail, leaving the wings free of nacelles, it has better aerodynamic properties than any other aircraft in flight, and that this was reflected by its speed, range, load capacity and economy. Fuel consumption (Aviation News, Sept. 17). It has been hailed by one internationally-known engineer as the most progressive step in aeronautical design in 35 years.

On the heels of the flight, AAF and Douglas released additional information on the XB-42 and its planned commercial counterpart, the DC-8. Range of the bomber is 5,000 miles and bomb load is

"up to" four tons. Gross weight is 35,585 lbs. and empty weight 19,148 lbs. Because of its high speed, there are no forward-firing guns, although an interchangeable nose can provide an installation of 50 caliber machine guns and 75 mm. or 37 mm. cannon. Wing guns are to the rear.

Power.—The two Allison V-1710 liquid-cooled engines each are rated at 1,620 hp. with water injection for take-off, and are located in the fuselage of the airplane off the cockpit. Two 60-ft. shafts furnish power to the 18-ft. counter-rotating Curtiss-Wright electric propellers which are driven independently of each other. While the "turbo" engines with extension shaft arrangement has been used previously in Bell fighters, the XB-42's propeller installation is unique.

While the bomber is 93 ft. long with a span of 70 ft., the DC-8 is projected with a length of 77 ft. and span of 109 ft. The transport is designed to carry 46 passengers and have a gross weight of 32,000 lb.

Courses.—The Long Beach-Washington course flown by the XB-42 is not the official transcontinental run recognized by the National Aeronautics Association, this country's record-governing body. The official course is from Burbank to Floyd Bennett Field at New York City. However, the XB-42's flight will be an inter-city record.

Attracts Crowd

Industry's interest in the novel Douglas XB-42, while of longer standing, is fully evidenced by that of the public. It was demonstrated while the "Moosester" was at Washington's Balling Field following the record-breaking flight. Day following the landing, the National Airport across the river opened its famous Air Transport Command world air terminal to public inspection after well-publicized advance notice. Nearly 800 people at the ATC terminal saw the XB-42, and 3,000 to look at the XB-42 at Balling.

Superfort Sets Record

Continuing previous reports that it was out to break all possible air records, AAF left its superfortress on a record-setting flight from New York to Washington, D. C., on Dec. 31. For the 1,618 miles, the B-59—the same one that recently established the distance record from Guam to Washington, D. C.—averaged 454 mph. When confirmed by the National Aeronautics Association, that will be a new national transcontinental record, in contrast to the mark set a few days before by the XB-42 which, not being over a recognized course, is an inter-city record between Long Beach and Washington, D. C.

Gates Resigns Position As Navy Undersecretary

Artemis L. Gates has resigned as undersecretary of the Navy, effective Dec. 31.

After having served four years as undersecretary and assistant secretary of the Navy for Air Gates, formerly a New York banker and investor.

He submitted his resignation to President Truman on Sept. 2, but at the President's request remained to work as demobilization.

At the beginning of the war Gates as assistant secretary for air was charged with Naval aircraft procurement.



LaMorle T. Cohn

Others elected at the association's recent meeting in Los Angeles were:

Robert E. Gross, president of Lockheed, vice-president of AIA; Lawrence D. Bell, president of Bell Aircraft, vice-president, and Maj. Wilson, Maj. Douglas, and E. Breach, president, Bendix; Alfred



Spaatz to Receive Collier Award Today

Recognition of work in employing air power against Germany is first for purely combat achievement.

Gen. Carl A. Spaatz today was to receive the Robert J. Collier Trophy for 1944 from President Truman at a White House ceremony. The trophy is bestowed annually by the National Aeronautics Association "for the greatest achievement in aviation in America, the value of which has been thoroughly demonstrated by ac-

tual use during the preceding year."

Gen. Spaatz won the 33-year-old award as commander of the U. S. Strategic Air Forces in Europe for "demonstrating the air power concept through employment of American aviation in the war against Germany."

First Award of Type—The oldest, and perhaps most prized award in aviation, the trophy was established by Robert J. Collier, one-time publisher of the magazine, in the hope it would promote developments leading to safer flying. While awarded during World War II for achievements pertaining to military aviation, the Spaatz award is

the first for purely combat performance as such.

Reason, it is learned, is that the most signal aviation achievements in 1944 were regarded by the R.A.A. trophy committee as being development and use of radar, and development and production of U. S. aircraft. Radar was not solely a U. S. project, and no one person or group was primarily responsible for the aircraft. It was believed that Gen. H. H. Arnold, AAF chief and member of the trophy committee, himself a trophy winner in 1943, recommended Gen. Spaatz as the originator of the strategic bombing concept as employed by the AAF.

Successor—Gen. Spaatz, seen as the likely successor to Gen. Arnold as AAF commander, was born in 1891 and was graduated from West Point in 1914. Appeared as a military aviator assigned to aviation, he was a pilot in World War I and in the recent conflict commanded air forces in Africa, Europe and the Pacific.

Kansans to Promote Aviation Education

The Kansas Commission of Aviation Education, Inc., a group of individuals interested in active promotion and correlation of aviation education in schools, colleges and universities of Kansas, was organized at a recent meeting at the Boeing Wichita plant.

The commission outlined as its purpose the infusion of aviation educational material into all levels and levels of education from kindergarten through colleges. Besides promoting flight scholarships, the commission is setting up aviation institutes over the state, including workshops in the summer educational season.

Officers—Evan E. Evans, superintendent of schools at Winfield, Kan., is chairman. J. J. Clark, assistant chief engineer of Boeing-Wichita, was named vice-chairman; Miss Iva D. Owen, teacher of aerodynamics at Topeka High School, secretary and Ray W. Elliott, comptroller of Wichita University, treasurer.

In addition to the officers, board members include Munter Brown, professional relations director, Kansas State Teachers Association, Topeka; Lt. Col. Howard Wilson, Kansas wing commander of the 48th A. G. and Dr. L. W. Brooks, state superintendent of public instruction.

Vigorous Convention Indicates Strong Aviation Role for ADMA

Attempts of association leaders to bring order into parts business beginning to take effect; resolution criticizes government disposal of surplus aircraft components.

By ALEXANDER MCGURLEY

Development of the youthful Aviation Distributors and Manufacturers Association into a strong force in civil aviation was indicated at the vigorous, fast-moving convention of the organization in Cleveland last week—the first independent membership meeting since formation over two years ago.

Attempts of association leaders to bring order and business-like methods into the aviation parts business as a national over-all policy are gradually beginning to take effect, although many evidence of the chaotic conditions which obtained generally before the war still remain.

Problems—Fair discount practices and displaying broader display and dealer as separated from customers, the two major problems of the parts business, confirmed to occupy much attention at this year's meeting. Emphasized, too, was the need for standardization methods and vastly improved service throughout the manufacturer-distributor-dealer chain down to the consumer.

Vigorous criticism of the government's disposition of surplus aircraft components was voiced in a resolution. The association called for "more accurate information of items offered, more complete description according to customary trade designations, more equitable pricing program and an industry advisory committee to advise with the government regarding."

Changes—The resolution charged that disposition of surplus is not accurate, does not make condition of article known, and in certain extreme cases "disposal agencies have unwittingly put themselves to what could be termed gross misrepresentation in private industry because condition, quantity and quality of goods was far below the descriptive matter on which the purchaser has relied."

Use of dealer signs, posters, display boards, direct mail literature, magazine and newspaper advertising, counter displays, show cases and window displays were recommended. Demonstrations and exhibitions proving the superiority of the product, and information on care and repair were called for.

Market—Tom O. Duggan, vice-president of Thompson Products and president of ADMA, predicted that the vast potential market of war-trained aviation-minded young men and women in this and foreign countries would be augmented by a substantial group of "stable citizens," professional

New ADMA Officers

W. E. Scott, Jr., of Supply Division, Inc., Robertson, Mo., is the new president of the Aviation Distributors and Manufacturers Association. Scott is a former director of the organization.

Vice-presidents are J. C. Harwood, vice-president of sales engineering, Air Associates, Inc., for the distribution; and Herbert P. Ladd, president of the National Screw & Manufacturing Co., for the manufacturers.

Sam O. Duggan, vice-president of Thompson Products is the retiring president of the association and informally became chairman of the advisory board.

Secretary—George A. Fenley was re-elected executive secretary and H. Donald Schuchman re-elected secretary. Directors are Walter Horvath, Glendale, Calif.; Bob Truder, Pittsburgh; George W. Julewski, St. Paul; Harry F. Wood, Birmingham, Ala.; Duane Stranahan, Toledo, A. E. S. Petrofsky, Cleveland; J. G. Bausher, New York; C. E. Montoy, Detroit; and Gary C. Mueller, Omaha.

and business men who would find flying increasingly useful in their work and recreation.

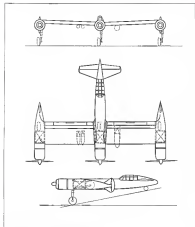
He emphasized the necessity for a "heads-up" policy in aviation merchandising and consumer satisfaction.

Ray Snyder, president of Snyder Aviation and past president of ADMA, warned of the dangers of overestimating future sales volume. Many products, he pointed out, may become "dead merchandise."



NAVY EXPERIMENT:

Designed by Charles Wright, this Navy fighter was one of the first experimental designs to use CW engine—raising propellers. Destroyed in the XP-11, the plane carried four 20 mm. guns, bombs and rockets and was equipped with a turbo-supercharger for high-altitude work. It never went into mass production.



NAZI 'TRIPLE THREAT':

The Germans were grasping at straws in weapon and aircraft design as the Allies mastered them. Blohm & Voorn, playing a brilliant part, put on paper, and frequently in the air, many radical concepts. This sketch, obtained exclusively by AVIATION NEWS, shows the P-176, which never got beyond blueprints. In it B & V planned to use two of the three engine nacelles on the wing tips as hedges to inhibit tip stallage, at the same time improving distributors of engine weight. American engineers said it was clever, but they thought that the weakness of inertia would be probably unmeasured; that the craft would accelerate too slowly on its vertical climb, and once started would spin like a flywheel.

most" on the shelves of dealers and distributors unless the manufacturer properly endorses his sales policies and his models.

Volume—He quoted figures on the number of automotive parts jobs and dealers in various states where total automobile sales were comparable to all the airplanes sold in a given year in the United States: Chattanooga, 24,912 cars and trucks, has 12 jobs and 12 dealers; Duluth, 24,671 cars and trucks has 11 jobs and 22 dealers. On a comparison of cost, taking four automobiles for one plane sold, he cited Houston with 104,756 cars and trucks sold, 34 jobs and 45 dealers.

Warning of the danger of spreading aircraft parts distributorships "too thin" throughout the nation on the basis of sales volume, he added:

"Some manufacturers with more than 100 distributors are way out in left field."

Suggestion—H. V. Tracer, of Herb Tracer Aero Supply, Pittsburgh, reviewed suggestions of other distributors:

"Manufacturers should give advance notice of obsolescence and permit return of a certain percentage of obsolescent parts.

"Weekly meetings with sales staff to go over products and sales aids received from manufacturers should be held.

"Manufacturers should establish a distributor liaison man, who should follow through on orders and service to distributors.

R. B. Kenny, Air Associates, Dulles, called for a distribution policy "with teeth in it" to determine whether a customer is entitled to be accorded a dealer's discount.

Executive Secretary George Forley, reported on the ADMA collection service for delinquent accounts, its credit interchange service, and outlined growth and activity of the association.

He urged the importance of aviation business men taking a more active part in government, and in knowing their local representatives and making their needs known to them for congressional action.

Air Forces Combined

The Far East Air Force and Strategic Air Force have been telegraphed into one organization, Pacific Air Command, U. S. A. This command combines the 8th, 13th, 15th and 21st air forces under Gen. George C. Kenney.



First flight: Largest amphibian ever built, the Martin XPBM-3A takes off on its first test hop from the temporary field at Middle River, Md. The ship is a modification of the Mariner, gull-winged flying boat widely used by the Navy.

Dr. Cox Delivers Wright Lecture

Dr. Harold Hardee Cox, vice-president of the Royal Aeronautical Society, was to deliver the ninth Wright Brothers Lecture this week, an introduction to the work done in Great Britain on aircraft gas turbines.

The two main lines of development associated with the axial and centrifugal compressors were to be traced, and the extension of this work into practically the whole of the British aircraft engine industry described.

Joint Effort—Contributions of various British firms are noted and

as well as the collaboration that was developed between the Allies.

The lecture, commencing the third anniversary of the first airplane flight made by Gerville and Wilbur Wright at Kitty Hawk was presented in Washington by the Institute of Aeronautical Sciences.

Comments—There were to be prepared comments by Carleton Kemper, executive engineer, Aircraft Research Laboratory, National Advisory Committee for Aeronautics; R. P. Koenig, manager of the engineering aviation gas turbine division, Westinghouse Electric Corp.; and Donald F. Warner, assistant designing engineer, aircraft gas turbine division, General Electric Co.

Giant Martin Amphibian Tested

The largest amphibian ever built, Glean L. Martin's 26-ton XPBM-3A made its first test hop last week at Middle River, Md., in miserable weather.

The ship is a modification of the Martin PMM Mariner, twin-engine, gull-winged flying boat which has been widely used by the Navy. The Mariner has taken off in 16-ft seas with 40 men aboard, 30 more than her usual complement.

Real Purpose—The new craft becomes dual purpose. It will be able to fly from runways, using a treble landing gear with the forward wheel folding into the hull, the main wheels making a 160 degree arc to rest in wells built into the hull sides.

The amphibian that flew last week is the largest amphibian to get beyond the design stage. Although the basic airplane is a Mariner, it was necessary to modify

certain basic subassemblies. The right deck and tail assembly is identical with the PMM-4, the hull section forward, where the landing gear is located, has been completely redesigned, however, with bulkheads reinforced to carry the load.

Land Gear—The land gear is a special Martin design. The main wheels operate on a single steel wheel or traverse. Hydraulic power locks and jacks them. Automatically operated locks hold them in position. Although the landing gear and the consequent hull redesign is comparatively strong, only 4,000 lb. has been added to the total weight of the aircraft. The plane is expected to have a gross take-off weight of 64,000 lb. on land and 56,000 lb. on water. It is powered with two 2,200-hp Pratt & Whitney engines turning Curtiss four-blade propellers.

PRIVATE FLYING

Federal vs. State Regulation Of Aircraft Nearing Showdown

CAA and NASAO representatives to meet next month to discuss final point of difference—whether states shall issue and revoke pilot and aircraft licenses.

By WILLIAM KROGER

With new airplanes on the way, an increase in airports halfway around and even as regulations simplified in a degree, CAA, the industry and private flyers' organizations are moving to resolve still another of the private pilot's problems: the extent of registration, licensing and piloting of planes to be undertaken by the Federal and state governments.

Next month, CAA representatives will sit down with a committee of the National Association of State Aviation Officials to attempt to decide once and for all the final point of difference between the two—whether states shall have the power to license aircraft and aircraft and, consequently, revoke licenses.

Bill Stalled—The Civil Aviation Legislative Council, composed of representatives of the leading aeronautical organizations, has appointed a committee of three attorneys to study and report on HR 3183, the bill of Rep. Clarence Lee (D-Calif.) to define Federal jurisdiction over interstate and intrastate aviation.

The Aircraft Owners and Pilots Association is taking note of various state laws which it asserts are unfavorable to private flyers, singling out those of Connecticut for particular criticism.

Long Dispute—The disagreement between CAA and NASAO is long standing. Following the National Aviation Clinic in 1944, NASAO released the text of a recommended "model" act establishing a state aeronautics commission. It bore a promise that said it had the concurrence of CAA representatives.

But Administrator T. P. Wright said that the provision allowing states to license and suspend aviators could not be acceptable to the Federal Government and that as CAA representatives had the power

to "concur" in recommending an act of that scope.

Main View—State representatives maintain that piloting of regulations is a state function and can not be upheld without the power to ground offending aviators. CAA, on the other hand, insists the states have all the power they need through their right to impose fines and jail sentences on violators.

Through a series of conferences which will culminate next month, CAA and NASAO have narrowed the conflicting views between them to the point where there seems to be a fair chance that an agreement can be reached. CAA is not expected to retreat from its position that states cannot revoke Federal licenses, but probably will not object to state licensing for purposes of information. HR 3385, if ever

enacted—it is dormant at present—will provide that state aviation and aircraft requirements shall conform to those of the Federal Government, and that states be given police power over the regulations. A compromise of sorts will have been recommended CAA and NASAO.

Connection—It is the licensing provisions of the Connecticut regulation that chiefly attracted the fire of the AOPA. The association's bulletin recently printed a complaint of a pilot against Connecticut's physical examination regulations, which require certification by a state-appointed doctor. AOPA also criticized the state because CAA inspection and licensing of aircraft and aviators is not accepted, because the Commissioner of Aeronautics may change regulations and revoke licenses without hearings, and on other grounds.

In response to a request from AVIATION NEWS, Connecticut's Aeronautics Commissioner, Kenneth H. Ringrose states "all of our (medical) examinations . . . are also CAA flight surgeons, and thus one examination is all that is necessary. . . . At the present time 13 miles is the greatest distance anyone would have to travel for an examination, with the average distance being 11.4 miles."

Changes—His power to change regulations, Mr. Ringrose asserts, is an asset as it enables the state code to be quickly revised to con-

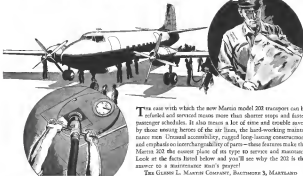


"REMODELED" TAYLORCRAFT:

This float plane, reconstructed from a standard Taylorcraft side-by-side lightplane, has successfully passed five flight tests at a Pittsburgh airport here. Weighing 2,250 lb. and powered by a 65-hp Franklin motor, the craft is to be streamlined and have retractable wheels added, according to its designers, D. Barry Peart and Kenneth Leevelec, who formerly were associated with the Taylorcraft firm.

WHAT THE NEW

Martin 2-0-2 MEANS TO AIRLINE MAINTENANCE MEN



Quick Refueling To reduce waiting time at airports, the new Martin 202 is designed for refueling from the ground. No idling, no shuffling wings to save time.

The ease with which the new Martin model 202 transport can be refueled and serviced means more than shorter steps and faster passenger schedules. It also means a lot of time and trouble saved by those winged heroes of the air lines, the hard-working maintenance men. Unusual accessibility, rugged long-lasting construction, and emphasis on interchangeability of parts—these features make the Martin 202 the easiest plane of its type to service and maintain. Look at the facts listed below and you'll see why the 202 is the answer to a maintenance man's prayer!

THE GLASS L. MARTIN COMPANY, BALTIMORE 3, MARYLAND



Some CAA requirements. Although he does have the authority to suspend or revoke licenses without hearings, appeals may be taken to court. Connecticut requires monthly inspections of aircraft, which are made without charge and at the home airport of the airplane at the owner's convenience. When it was proposed that this system be changed, Mr. Bangrove says, "operators and private pilot who blantly stated that they wished these inspections continued."

Along with the fact that state registration is burdensome, pilots have criticized it on the grounds that it is another expense. Connecticut's commissioner points out that receipts from licenses and registrations in that state are used to carry out the airman's program and other purposes benefiting aviation, with none of the revenue assigned to operate the aeronautics department.

Piper Distributors to Handle All Replacement Parts

Consistent that service will be a big factor in future aircraft sales, Piper Aircraft Corp. is planning a six sales program with the idea that purchase of replacement parts or aviation accessories by mail is rapidly ending. According to J. W. Miller, domestic sales manager at Piper, the man who needs these items will expect to buy them over the counter, the same as he does auto parts.

A cost survey of handling service parts revealed that service



Engine Installation: New 100-hp. Continental engine installation on the pre-war Dart two-place monoplane is shown above. An engine kit for converting the powerplants is being offered by the plane manufacturer.

must pay for itself. The sale of new planes could not be expected to carry the expense entailed. Piper, although ahead of other manufacturers in number of aircraft in the field, has only about 10,000 Cubs flying in the United States today. Therefore it is planned that each of the 32 distribution centers will carry a complete line of Piper replacement parts, with the factory at Lock Haven not attempting to service the individual customer directly.

Accessories—Arrangements with engine manufacturers will enable the distributors to handle a complete line of replacement parts. Accessory manufacturers also have contracted to provide accessories desired by an individual owner directly through the distribution organizations.

Michigan Company To Produce Darts

Plans to produce the Dart, two-place side-by-side monoplane at Tecumseh, Mich., have been announced by Agapite & Weyant Engineering Co.

The plane will be essentially the same as the pre-war Dart, except for installation of a 100-hp. Continental 6-cylinder engine with starter and generator, in place of the 80-hp. powerplant previously used.

Conversion —By Agapite, chief engineer, reports approximately 36 of the pre-war Darts still in the field, but that about half of these are grounded because of engine difficulty and lack of parts. His company has announced a \$1,900 conversion kit for installing the new 100 hp. Continental, which makes the change-over possible in two to three hours. Some conversions now are going through the factory on a production basis.

Changes in the new production model will include lowering the instrument panel four inches, with resultant better visibility, addition of a main and adjustable propeller. The new Dart is expected to be on display at the Miami Air Show in January. With the new engine it cruises at 150 mph. and has an average landing speed of 42 mph. the company reports.

Calver Prototype—The pre-war Dart was a low-wing monoplane with fixed landing gear, which was manufactured at Columbus,



Distribution Service Shown: Typical of Piper Aircraft Corp.'s campaign toward dressing up the merchandising of Cub replacement parts, aviation accessories and equipment required by personal plane

owners and airport operators, are these classrooms, one (left) operated by Miami Aviation Co., Miami, Ind., managed by Clyde E. Shockley, and the other operated by A. W. Whitaker at Portland, Ore.

FACTS FOR MAINTENANCE MEN ABOUT THE NEW MARTIN 202

- Radio, heating and electrical equipment, as well as control cables and hydraulic lines, are now located in the belly of the fuselage—out accessible through three "manhole" type doors. Equipment is grouped to permit work on separate types with minimum of interference.
- Accessories at rear of engine are accessible from which walk-through access to the rear. The 202's engine panel is under wing prevents fuselage lock servicing from ground. Adapters, maintenance panels permit inspection of vital controls.
- Flyer's and engine's right gear subassembly is accessible on ground through one wheel well from back of instrument panel. Through-panel, rubber master strut is designed for maximum accessibility to engine.
- Mainline, flying fuel cells, easily removed, installed or repaired. Cables furnished easily removable without tools.
- Special extension gear for making of gear inspection possible.

Wherever possible right and left hand parts are identical. Thus, for example, wingpodding consists of identical interchangeable panels, easily removed or installed without tools.

• Power plant mountings are designed for rapid replacement, right and left engines are interchangeable, cylinders are easily removed. Flexible, long-lasting, flared fuel tubing for all fuel lines forward of three fire zone specified.

• Landing gear consists of dual main wheels which are safer, lighter to handle, easily taxied—and a new style nose wheel with aluminum the simplicity of the enclosed tube type. Conventional jack points permit easy replacement of wheels and brakes—draw-out jack lever designed to simplify, reliable.

• There are only a few of the outstanding features of the Martin 202. From most in aircraft plane was designed to meet airline maintenance requirements as determined by long study of airline custom and procedure.

• The Martin 202 is engineered specifically in most Air Transport Association specifications. Not just designed for the airline but by the airline—sub-built by them—in the most exacting standards of the air traveler.



"Dart" Conversion: Powered with a new 185-hp. Continental engine, this conversion of the pre-war Dart airplane is credited with 128-mph cruising speed. Conversions and new Darts, with only minor modifications, are being manufactured at Ypsilanti, Mich., by Applegate & Weyant Engineering Co.

Ohio. Shortly after completion of the Dart Model G two-place plane with retractable landing gear, the Culver Aircraft Corp. was formed to take over the manufacturing and sales rights for the plane, which then became the original Culver Cadet.

The Dart was known to midwest pre-war airshows as an aerobatic plane, and was flown in a clipped-wing 13-ft. open version by Don Walters, stunt and test pilot who specialized in low-altitude upside down flying.

Applegate states that there is no connection between his company and the Culver Aircraft Corp.

Reflector Markers Prove Successful

Tests conducted at Rochester, Minn., with "Scotchless" reflector markers for airports, have been pronounced successful by CAA observers. D. W. Osan & Sons, manufacturers of the reflectors and portable lighting equipment, have announced. The equipment is designed for runway areas in small fields where permanent underground warning systems would be prohibitive in cost.

The vertical markers, 13 to 14 inches in height, were placed at 100-ft. intervals along runways at Rochester Municipal Airport, and two turf landing strips were marked out simulating turf runways on small fields. Other reflectors were placed on telephone poles and the name "Rochester" was spelled out in reflectors on the hangar roof.

Floodlights.—The reflectors were lighted by an Osan floodlight trailer, rated at 5,000 watts and generating standard 115-volt 60-cycle single phase alternating current of more than 1,000,000-cm-

dispower. The lights included two 1,600-watt floodlamps, 24 spotlights of 150 watts and six low-wattage spotlights. The four-place Struman and two-place Piper planes used in the test were equipped with landing lights, but these proved insufficient to light the ground markers.

The material used in the reflectors is a product of the Minnesota Mining & Manufacturing Co.

Fairchild Readying M-24 'Family Plane'

First flight tests were scheduled last week on the prototype Fairchild M-24 "family plane" which has been under construction at the Hagerstown, Md., factory.

A four-place, low-wing cabin plane, the M-24 is patterned after the company's wartime PT-23 trainer. It has a span of 38 ft. and length of 26 ft. Power plant is a Continental seven-cylinder radial air-cooled engine of 220 hp. The M-24 is designed to climb at a rate of 660 fpm and achieve a top speed of 150 mph. at sea level. It



Fairchild Family Plane: First picture of the four-place plane projected by Fairchild Engine and Airplane Corp. as a "family plane." Expected to make its first flight last week, the aircraft has not been type certificated according to CAA.

has retractable landing gear.

Equipment.—Standard equipment on the M-24 will be simplified altimeter, altimeter, compass, tachometer, engine and fuel gauge, ammeter, starter, generator. Radio and blind flying equipment will be extra. Fuel capacity is 50 gallons, and gross weight 3,399 lbs.

Gimbel's, New York To Sell Taylorcrafts

Joining the department store trend toward personal airplane merchandising, Gimbel's, New York, has announced its agency for Taylorcraft in a flamboyantly written advertisement decorated by a drawing of a winged horse pulling a man in an old-fashioned buggy.

"This is no pie in the sky for the sweet by-and-by," says the Gimbel ad. "Buy your Taylorcraft today—fly to Wilkes-Barre to keep a business appointment. Monday. Flying is easier than driving a car in this handicapped of a place."

"It's Easy."—The advertisement continues: "Of course it takes a little longer to learn. The average person drives in six hours, learns to fly in eight hours. But once you've learned it's easy as pie. Flying doesn't call for the steady concentration and alertness you need to pilot your car through city traffic, around curves on the New York River Parkway. With eight lessons you'll probably be flying."

Among exasperated clamors, the advertisement declares: "This is the sweetest flying plane that ever took to the air." War Training school operators have found Taylorcrafts cost less to maintain than any other plane at any price. This plane has the roughest,

An Open Letter on Policy

Regarding KOLLSMAN Products and the new

Scout
Instruments

Kollsman intends to continue the development and manufacture of instruments used in some in precision and reliability for the Military Forces and Airbases of the United States. This is the field where the citizen is required, exposed and demanded. We have the vision, the facilities and the staff to provide it.

This same Kollsman standard of quality guides us also in the manufacture of instruments for private aircraft. If personal airplanes are to be built and used in large numbers, and if the industry is to grow as it should—and as it can—certain quality standards must be maintained. The airplane is not the vehicle with which to experiment in order to determine how cheap an instrument one can get by with. An inaccurate or unreliable instrument is worse than none at all. Quality will never be subordinated to price in any Kollsman instrument.

Our new Scout line of instruments for personal airplanes—at prices well within the reach of the private flyer—was made possible by re-designing the standard airline and military instruments to the performance requirements of the private plane. Their ruggedness, accuracy and trustworthiness can be experienced with the safety and utility of private aircraft.

Thus, there is our policy for the future in the manufacture of accurate instruments. We believe it will contribute much to the healthy growth of the industry.

R. E. Collman

Vice President, Scout D. Company
General Manager, Kollsman Instrument Division

KOLLSMAN INSTRUMENT DIVISION OF SQUIBB & COMPANY, 30-40 4TH AVENUE, STAMFORD, N. Y.

toughest landing gear in the industry. You land safely because you have full control under all conditions.

Instruction—Plane pictured and described in the *Today's* article Two-sons, (two-place side-by-side) offered at \$1,295 including earth borne free flying instructions enough to teach you to fly! The price is based on delivery at the factory at Alliance, Ohio, with the inference that shipping charges to New York are extra. The plane may be purchased on Gimbels easy payment plan, one-third down and the balance including service charge, in monthly payments.

Porter H. Adams Dies; One of NAA Founders

Porter H. Adams, 51, a founder of the National Aeronautic Association and a longtime leader in many phases of aviation, died recently at his home in Boston, Mass. after a long illness.

Mr. Adams became active in aviation before the World War I and in 1916 was associated with Donald Douglas in the first proposal for a world flight. He served in the Navy in World War I. He was a former president and longtime chairman of the executive committee of NAA. He also had been president of Norwich University, from which post he retired because of illness four years ago, although retaining the title of president emeritus, and continuing to hold the James Jackson Cabot professorship of air traffic regulation and air transportation. A NACA War—He had been associated an special research with the National Advisory Committee for Aeronautics, was a U. S. representative at several international aviation conferences and was an inventor of aeronautical devices and research techniques.

Fort Worth Air Show

Fort Worth, Tex., is making plans for its Southwestern Aviation Exposition to be held March 8-16, the same time as the Southwestern Exposition and Fat Stock Show. Two sponsors Texas Youth, R. W. (Bob) Cassel, Fort Worth NAA chapter president, and Seth Barwise, have been named general and vice-president of the air show. Plans are being made to organize "aircades" of visiting flyers from Southwestern states to attend the exposition.

Briefing For Private Flying

The revised Republic Seabee amphibian, complete with 232-hp. engine is due for an early showing in New York. An interesting fact about the plane is that the revised design has struts on the wings, whereas the former version had full cantilever wing. Main purpose of the struts, besides holding the wing up, is to keep the plane occupants from stepping out of the doors and walking back into the path of the pusher propeller. The revised design also has enabled Republic to subtract a few more parts from the wing structure, following the company's general philosophy of simplifying design wherever possible without interfering with strength or efficiency.

COLONETER—A 34-year-old AAF veteran, Donald Colabekis, now an aeronautical engineering student at Purdue Air College, has developed a new stall warning indicator which he has called the Coloneter. The device blows a warning horn and flashes a red light on the instrument panel when the plane approaches a stall position. The inventor says his device will anticipate stalls out of level and climbing turns and at high speeds as well as stalls during takeoff. Operating principle of the device has not been disclosed. The CAA has conducted tests with a number of other types of stall indicators.

"SIMPLY" CONTROL—A Mooney's new "Simplify" control arrangement on Culver Model V, is reported to be a major improvement by some people who have seen the plane. The Culver Corp. says all the pilot has to do is: "Set the dial for takeoff or 'low gear'; advance the throttle and the ship takes off. Throw it to 'second gear' or climb and the airplane climbs at optimum altitude. Put it in 'high' or set the dial for cruise and the airplane levels out at cruising. The landing is just as simple." Unofficial reports peg the Model V top speed at better than 148 mph, and its cruising speed at 125 to 135 mph, although the company has not yet announced definite performance figures.

IF YOU MUST CRASH—Instructions by the Aero Insurance Underwriters engineering department on what to do in reduce the hazards of a forced or crash landing are reproduced here for the careful study of every flyer who reads these pages:

"Try to dissipate the energy of the aircraft by taking the shock of the impact on the wing if possible. The ideal situation would be for the pilot to fly backward two poles or trees which would shear off the engine, allowing the fuselage to come to a gradual stop. The aircraft should be landed at a speed which assures the pilot sufficient control so that he can do whatever is necessary at the last moment. This usually will mean that forced landings will be made above stalling speed although there may be times when it might be preferable to stall in Prior to landing the pilot should caution passengers to remove their eye glasses and to unhook a pipe is especially dangerous, put any available soft objects such as pillows, coats, ahead of them, harness and belts, fold arms over heads, if available use a Sutton harness, take all sharp objects out of pockets, open all cockpit windows to aid in escape."

AIRPORT RESTRICTIONS—A tendency on the part of some airport managers to seek to bar private flying, regardless of the ability of the pilot or the type of plane, from his airport to restrict it to airline use, is not in the best interests of aviation generally. It was encouraging to see the recent National Aviation Council at Oklahoma City vote a resolution urging that municipal airport management "distinguish between local and transportation personal flying and training or practice flying." Many private flyers who use their planes for cross-country operation are just as good or better than some of the airline pilots. And some of the private planes are fully equipped for instrument operation but even if the pilots are not experts and open if the planes are not up to airline standard, the transient pilot at several steps above the student pilot and should receive much more consideration. Washington National Airport, one of the busiest in the country, doesn't hesitate to bring in private planes, if the pilots notify the tower in advance, either by radio, or by telephoning in from another airport. And if Washington can do it, there isn't much reason for any other field to bar transients.

—Alexander McBarley

YOUR BUSINESS





WANT MORE *Business?*

More business is simply a matter of meeting more people more often. When you can get to your destination quicker, you go more frequently, or stay longer, or both.

The result? More business.

This is true wherever your business may be situated. Braniff's proposal for a coordinated airline system in the Western Hemisphere will bring sources of business closer. It will mean more business, will aid full employment and prosperity throughout the Americas.

BRANIFF AIRWAYS

Legend of Lines

- Braniff Airways, Inc.
- Braniff Airways, Inc.
- Braniff Airways, Inc.

Sprint "Skyspeed II": Sketch of the little-known Sprint Controls/feather Wing flying boat in its second edition, shows a new hydroplane with simple propeller shaft arrangement, similar in many ways to that used in an ordinary water boat. The propeller tips operate only a few inches above the water level, but are shielded by the bottom of the boat. The Skyspeed II is another of the controls/feather-wing experimental planes developed by Sprint and the Maritime division of Consolidated Vultee.

Sprint Flying Boat Has Simple Prop

The pusher propeller installation in the latest Sprint Controls/feather Wing flying boat developed by George Sprint and the Nashville division of Consolidated Vultee is made possible by an extremely simple propeller shaft arrangement, comparable to the shaft used on an ordinary motor boat, the inventor has disclosed.

"It is even more simple, not even a stuffing box is required," Sprint told Aviation News. "For many years the boat builder has hinged the engine down at the rear and connected a shaft in line with the crankshaft down through the bottom of the hull far enough to obtain propeller clearance. It would have been the most natural measure for the flying boat builder to leave the engine where it is and slope the rear up and connect the shaft to the air propeller. The shaft can be smaller and lighter so the shaft size is usually determined by its resistance to striking submerged objects. This hazard is much less with an air propeller."

Operation:—Like the four-wheeled landplane previously announced, the Skyspeed II, is flown by "lifting" the wing, in relation to the fuselage. Sprint reports that the 1/2-in. shaft in the Skyspeed has given over 100 hours of trouble-free operation. With a working stress under 10,000 lbs. per square inch, it transmits 70 hp. to a 49-in. propeller turning 2,800 rpm.

On one flying boat version Sprint has used a single control

arrangement successfully, due to the unusual flying characteristics of the wing.

Airpark Permit Suit Reinstated In Florida

Florida Supreme Court recently reinstated a suit by which Carl Stengel seeks to compel the Dade County Commission to permit him to use a strip of property for a landing field.

Justice Elwyn Thomas commented: "In any metropolitan center of America the droning of airplane motors is almost constant, and obviously aircraft bearing passengers, mail, and freight in and out of cities could not operate were their approaches and departures confined to territory unincorporated and untraversed by roads and highways." He said it was difficult to adapt the view of the Dade County Commissioners that the suburban airport should not be operated because of the

possible effect on safety and general welfare.

Testing:—Stengel's land is near a highway and rules from downtown Miami. Only part of it is in a zone in which airports are permitted. The Dade County Commission declined to follow a county zoning director's recommendation that the permit be granted. Stengel filed suit, but the Circuit Court dismissed his bill of complaint.

Injection Carburetion Offered For Light Planes

Injection carburetion is made available probably for the first time to the light airplane in the new P18 series of Sternberg carburetors announced by Bendix Products division, Bendix Aviation Corp., South Bend, Ind.

Non-surge characteristics, freedom from gravity effects in dives, climbs and banks, automatic compensation for temperature and altitude effects and accurate prediction of fuel consumption are cited as advantages of the new type carburetor developed from those used on virtually all military planes during the war.

Range:—The series includes carburetors for engines ranging from 50 to 160 hp. The simple-boreless fuelless carburetor may be installed in any position for upright, downdraft or horizontal operation, the manufacturer states. It provides a closed and pressurized fuel feed system from fuel pump to discharge nozzle.

The venturi screen only to create pressure differential for controlling fuel quantity. When discharge fuel pressure drops below three lbs. per square inch, fuel leakage past the screen is prevented by closing a spring loaded valve.

Spins, Stalls Cause 1/2 Of Deaths

One-third of all fatalities suffered by non-war carrier aircraft accidents in 1944 were attributed to spins or stalls, giving additional point to the arguments for approved, modified designs for personal planes. This will tend to negate these hazards.

A summary prepared by the Civil Aeronautics Board shows that of a total of 108 fatal accidents reported, 69 resulted from spins or stalls, the largest single loss taken by any type of accident. Of 285 spin-and-stall accidents,

only 34 were without injury, while 34 reported serious injury, and 31 minor injuries.

Collisions:—Collisions with other objects, the next most serious type of accident, caused 52 deaths, 62 serious injuries and 39 minor injuries out of 366 accidents.

Analyzing the effect of the various types of accident by damage to plane showed that spins and stalls caused 138 "wash-outs," 48 overhauls and 17 major assembly repairs.

Pesco MOTOR DRIVEN HYDRAULIC PUMPS



Powered by tons of thousands of hours of the toughest kind of war flying, PESCO Feathering Pumps have set a record for performance and dependability that is unequalled. The newest model (illustrated above) has been developed by PESCO engineers to provide a compact, feathering hydraulic pump unit for propeller feathering that responds by remote control, with split-second readiness, to the pilot's wishes.

This pump is typical of the many motor driven hydraulic pumps that PESCO has developed for auxiliary operation of aircraft pumps. All of these feature Pressure Loading, an exclusive PESCO

development that compensates for wear and thermal variations brought about by the wide range of altitudes and temperatures through which these pumps must operate. Pressure Loading automatically maintains maximum clearance between pump gears and gear housing, making possible continuous high operating efficiencies under all conditions.

Write for descriptive folders on Motor Driven Hydraulic Pumps to PESCO Products Co. (Division Borg-Warner), 11610 Euclid Avenue, Cleveland 4, Ohio.



In Precision Hydraulics, Fuel Pumps, Air Pumps, Related Accessories...

PERFORMANCE POINTS TO



U.S. Aircraft Industry Can Learn Little From German Methods

Enemy's high production rate was sustained by vast pool of slave labor in face of inferior practices, Navy investigators report; American tooling technique not followed.

There is little the U. S. aircraft industry can learn from studying German wartime production methods and technique, it is indicated by information now becoming available. The high German production was sustained despite inferior practices only by the tremendous pool of slave labor.

The amount of labor at hand was employed particularly to make up a deficiency in the utilization of work-handling machinery. There was a complete absence of conveyor systems in 13 aircraft and parts plants surveyed by U. S. Naval aircraft production officers. Small hand trucks were used, but large parts were carried in pairs. While this system slowed down the entire work, there is evidence, the Navy report states, that the Germans did not include the time consumed in handling in the number of hours required to turn out a particular item.

Tooling—Another marked difference between the procedures in Germany and in this country was the extent of the employment of special tooling by U. S. manufac-

turers. While each machine in this country enabled relatively unskilled workers to achieve a high rate of quality production, the Germans depended on thousands and thousands of highly skilled mechanics. These would be classed as skilled toolmakers in the United States," the observers reported.

These men were able to work accurately with simple jigs and fixtures and relatively simple tool setups. These skilled mechanics were the product of the German apprentice system which required a four-year period of training, supplemented by frequent qualifying tests. The results of these tests were entered on the workman's history and qualification card that every workman was required to have. The more of pay and classes of work for which a mechanic was qualified were not determined by the ratings obtained on the tests.

Complaints—When the demands of war necessitated a cut in the training period from four to three years, many factory managers complained that good mechanics

New Type Parachute

Development of a new type of parachute harness is reported by the Pioneer Parachute Co., Manchester, Conn., a harness that is quick fitting and can be easily adjusted on any wearer in three seconds, regardless of his size or weight.

The company says it outdates the harness that required separate adjustments when worn by different-sized people. Chest and leg straps are snapped in the usual way. Then, a tug at leg and chest straps automatically draws the harness to a perfect fit. It is easily loosened by a tug at the chest and leg strap fittings.

An advantage pointed out is that the new harness may be loosened for comfort while in flight and instantly tightened in case of emergency. In addition it is not necessary to put on or remove the parachute outside the plane. This can be accomplished in the seat with the wearer in a sitting position.

could not be turned out in that time. These highly skilled workers were protected from military service until the very last stages of the war.

It was because of these mechanics, it is believed, that the Germans were able so quickly to make modifications on production lines, and swing into production of new models.

German aircraft types, to a large extent, were keyed to production means. They were designed for easy production, it is pointed out, while American designs were, by comparison, unsuited to large scale manufacture at reasonable cost. Some of the German designs could be produced much more easily and rapidly than similar products of the U. S. design. There seemed to be plenty of machine tools and of good quality.

Jigs Checked—Another device employed by the Germans to obtain quality production, despite wide dispersal, was found by AAF investigators. Interchangeability of components was insured by "referencing" the jigs at various plants to gauges which were duplicates of a master. Each plant had its own duplicates which periodically were checked against the master. These master gauges were carefully guarded at a location not disclosed.

AIRCRAFT INSTRUMENTS

by GENERAL ELECTRIC



INDICATORS

Magnetic-drag Tachometers

For the measurement of aircraft-engine speed, more than half a million tachometer indicators and generators have been supplied to the armed forces since by General Electric. (Additional thousands were built to G-E drawings by other manufacturers.) Naturally, this achievement to meet demand requires outstanding performance.

RELIABILITY—Less than one out of every thousand instruments shipped from the factory has been returned because of malfunctions.

ACCURACY—An instrument with a full-scale reading of 3000 rpm indicates within plus or minus 18 rpm in the operating range.

VARIABILITY—These instruments are available in a variety of ratings.

■ An explanation of the magnetic-drag principle and its application is contained in Booklet G-E-T-1513. Get your copy free by filling out a card and write to Apparatus Department, General Electric Co., Schenectady 5, N. Y.

OTHER TYPES OF G-E AIRCRAFT INSTRUMENTS

Amperes and voltmeters

Position-indicating equipment

Pressure-indicating equipment

Temperature-indicating equipment

Liquid-level-indicating equipment

Exhaust-indicating equipment

Electric gyroscopes



GENERATORS



GENERAL ELECTRIC



BEECHCRAFT PRODUCTION LINE:

New Beech D18E feeder transports (AVIATION NEWS, Dec. 16) are coming off this production line at the firm's Wichita, Kans., plant. This plane, successor to the 6-11 place transport built before the war, cruises at 184 mph with a top speed of 225 mph at 3,000 ft. Another model, the D18C cruises at 208 mph.

German production techniques, however, had three serious major faults.

► While great study was devoted to new designs and weapons, there was little thought or consideration given to problems of production. Additionally, administration of production by the government apparently bogged down worse in Germany than it did at times in this country. One plant manager stated it required a year for final contract approval.

► Plant lighting. Little use was made of fluorescent lighting and the level of illumination in German plants generally was less than half of the minimum considered essential in the U. S.

► The greatest "bug" was in handling of labor. While the multitude of slave labor was treated as such, even the German worker did not fare too well. The working day was eight hours, seven days a week and plant conditions far below those in this country. Very short meal periods were granted, and no provisions made for days off or for recreation.

2,500-hp. Engine Built By Chrysler

Production of a liquid-cooled, 2,500-hp. engine unusually light weight for the AAF has been revealed by Chrysler Corp. Although designed for mass production, and tested in a specially rebuilt P-47, final development on the engine was too late for it to be put into production for war use.

A 16-cylinder, inverted V-type,



Need "Thunderbolt": This tapered-nose P-47 was specially rebuilt to test 2,500 hp liquid-cooled Chrysler engine. Small frontal area of the engine made possible sleeker lines, better visibility for the pilot.

the engine weighs 2,400 lb., less than one pound per horsepower, and while 10 ft., 5 in. long, is but 33 in. in diameter. It powered this P-47 at speeds "approaching" 530 mph.

► **Other Uses:** While engineered for use in fighter planes, the engine's small frontal area makes it useful for multi-engine aircraft, the company asserts, because it could be almost completely buried in the wings and afford a great reduction in drag.

Design studies on the engine began in May, 1946, and the first engine was delivered to the Air Technical Service Command in January, 1948.

► **Details:** Built with an eye to speedy mass production, the engine employs a two-piece crankshaft, bolted together at the reduction gear joint. This also

reduces vibration and amplifies assembly. The crankcase is machined in one piece. A reduction in weight is obtained by using two valves to a cylinder.

Latest British Aircraft Being Tested in Canada

Britain's Ministry of Aircraft Production and the Royal Air Force are sending latest types of aircraft to a new research base at Edmonton, Canada, to undergo tests of starting and operation of engines and the functioning of other equipment in extreme cold. When lower temperatures are sought, experiments will be moved to advanced bases in the sub-arctic.

Canadian Problem

Dispossession of surplus aircraft engines, many taken from planes which have been destroyed as non-usable, is causing concern to Canada's government regarding disposal agency, the War Assets Corp. F. O. Peterson, WAC vice-president, expressed worry before the Parliamentary War Expenditures Committee at Ottawa. Under the demobilization program, aircraft engines, propellers, wheels and certain other equipment are salvaged.

Heads that this program might have to be revised were given by Peterson, because of the expense in preserving the parts. Only 85 of the store of 7,500 spare and salvaged engines had been sold by WAC and Peterson said WAC did not know what to do with the rest, except to get rid of some of them for educational purposes.

Private
pilots
are
Looking
ahead
WITH
LEAR



How is the perfect Escopac going to look and fly?

Here it is—Engineering and Research Corporation's entry in the postwar field. The new Escopac will take off quickly, climb fast, cruise at 150 miles an hour. It will be sporty and smooth—and will be as easy to learn to fly as an automobile is to drive.

And, of course, Escopac will be recommended. As Fred E. Wood, Vice President in charge of engineering,

"Our experience with Escopac has been entirely satisfactory from the start. That is why we have recommended it to Escopac users for the past five years and have made provision for its installation in the instrument panel."

Lear has been building fine radio instruments and accessories for aircraft since 1930. For a long time, of course, all production was concentrated for the military service. But now, when military requirements are being met by other means, we are turning our attention to the private pilot. As the result of wartime experience and development, they will be better and more accurate than ever before.

LEAR, Incorporated
Radio Division, General Electric Co., 200 Park Ave., New York 17, N. Y.
Post Office Box 100, West Coast Submarine, Ltd., Los Angeles 26, Calif.

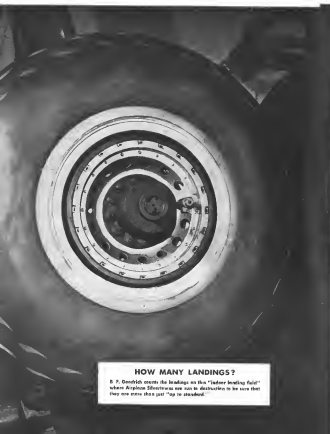


Escopac is compact, easy to install; all usual flight plans required equipped.



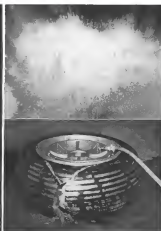
Chrysler Engine: One of the 2,500-hp. liquid-cooled engines developed for the AAF is illustrated in this view of its mounting in a specially-rebuilt P-47 fighter. Weight, less than one lb. per horsepower, the engine has a length of ten ft., but a diameter of only 33 in. It has powered the Thunderbolt at altitudes of 30,000 ft. and speeds near 500 mph.

Torture chamber for tires means safer landings for planes . . .

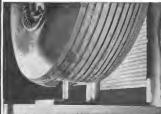


HOW MANY LANDINGS?

B. F. Goodrich counts the landings on this "tender landing field" where Airplane Silvertowns are run to destruction to be sure that they are more than just "up to standard."



HURST TEST! Wear is forced upon a B. F. Goodrich tire The pressure is built up to many times that encountered in service. Finally (top picture) the tire bursts . . . is completely ruined as the second picture shows. Gages record the way of a wide factor of safety.



WHAT ABOUT BRUISE RESISTANCE? Here's the test that fails out. The tire is forced down into a steel rod under steadily increasing pressure. Down, down until something has to give. And the pressure leads to still further developments for greater tire safety.

B. F. Goodrich Silvertowns prove they can take it before they take off

LANDINGS are big moments in airplane lives . . . moments when they have to take the shock of many tons multiplied by plenty m.p.h. If they're B. F. Goodrich Silvertowns, they're ready to take it . . . with lots to spare. Shown here are some of the reasons why.

B. F. Goodrich technicians "load" tires inside a building. They're smacked down with great force against a high-speed dynamometer and braked until the multi-ton flywheel comes to a stop. This "landing" is repeated time and again with careful wear and performance checks all the way.

Then there are tests for bruise resistance, heat resistance, fatigue resistance, and others —altogether a "torture chamber" for tires. These are some of the ways B. F. Goodrich makes sure Airplane Silvertowns are kept up to *inverness* standards—always ready for the new and heavier demands of larger and faster planes. The B. F. Goodrich Company, Aircraft Division, Akron, Ohio.



Skyway or Highway

B.F. Goodrich

FIRST IN RUBBER

Six New Transport Flown in Britain

Extent of British commercial transport production is emphasized in the report of the Society of British Aircraft Constructors that of the new British post-war airplanes now being developed, six already have flown. Two others will fly before the end of the month, two are in the production stage and seven nearing completion.

In less than four months since the end of the war with Japan, the British aircraft industry has made impressive strides in adapting itself to peacetime production. The plants still are working on unfinished military orders and government control is still in force.

Little Competition.—The Society contends that "the manufacturers are at a distinct disadvantage in not having competitive buyers for their products in their own country," with one overseas airline operating, representation meaning only one buyer in the home market for British transport.

This position has deteriorated in the viewpoint of the manufacturer by the fact that the overseas airline operator has been obliged to use aircraft not of British origin. Operating losses, equivalent of the fact that staffs, flying crews and maintenance units have several years of experience on craft now being used, are being directed to British planes.

Boeing Surplus Sale

Beginning this week, Boeing Aircraft is offering company-owned surplus materials for sale to employees and the public at Jordan Terminal in Seattle. No items will be sold for more than cost, and discounts will be given on the larger sales. Even 35% below Boeing's current cost.

Materials to be handled include automotive parts and accessories, electrical materials, plumbing goods, industrial supplies such as machine parts, motor supplies, hand tools, maintenance supplies, cutting tools and some machinery and equipment.

Where a single sale covers an entire lot, there will be an additional 10 percent mark down. Used goods, other than equipment will be sold at 50 percent discount on cost.

RCAF Orders Jets

Canadian-designed and built jet aircraft have been selected for the Royal Canadian Air Force from A. V. Roe Canada, Ltd. The aircraft will be constructed at the former Malcom Plant of Victory Aircraft. Neither engine nor aircraft are completely designed yet, but RCAF is negotiating with Turbo-Research, Ltd. in the development of a jet unit for the new airplane.

Percentage.—A change is taking place, however. On last Dec. 31, of the total fleet of the British Overseas Airways only 41 percent were of British make. By August, the percentage of British-built aircraft had increased to 33 percent.

Delivery of Lancastrians and Yorks allocated to BOAC is expected within eight months. The Vickers Viking, 27-passenger twin-engine medium range plane is built and flying. The prototype of the de Havilland Dove, 14-11 passenger feeder line plane had flown and should be in production early in the year.

Among the larger aircraft, the Avro York and the Avro Tudor I, four-engine planes, are in production. The Tudor I, designed for main line service, is nearing completion. Also in the larger class is the Short Sunderland, 24-passenger, four-engine flying boat for the Empire routes. The prototype is expected to be flying within the next few weeks.

Aircraft Problem Detailed By SPA

Confirming previous estimates from official sources that have been detailed in Aviation News, Surplus Property Administration has reported to Congress that the problem of the disposition of aircraft components and parts "are the most difficult in the whole sphere of aircraft disposal."

By next June, SPA stated, components and parts surplus may be as high as \$450,000,000 of original cost. That would not include any items salvaged from unusable aircraft. Of the total, about \$2,000,000,000 would be in 72,400 engines and their spare parts. Only about 11,500 of those engines could be considered suitable for civil use.

Total.—Overall, SPA reported,

the Government investment in surplus aircraft and parts will approximate \$17,500,000,000, a higher figure than previously estimated. About 65 percent of the investment will be in tactical planes having no civilian applications. More than 90 percent of the aircraft components and parts will be unsuitable for civilian use, it is estimated.

SPA's breakdown puts the total number of planes at 117,200. Of this total, 88,188, with an original cost of \$11,215,000,000, will be tactical planes, 16,500 costing \$1,495,000,000 will be transport types, and 17,670 costing \$1,670,000,000 will be suitable for personal planes. Roughly 60 percent of these aircraft is located in the U. S.

Dr. Durand Wins Top ASME Award

Dr. William F. Durand, member of the National Advisory Committee for Aeronautics and professor emeritus of mechanical engineering at Stanford University, has been awarded the American Society of Mechanical Engineers' Medal, the organization's highest honor, for his work on the development of jet propulsion.

Dr. Durand headed the NACA committee which conducted the original research in this country on jet propulsion.

A Golden ASME award, the Boly Medal, was given to Dr. Sanford Moss, General Electric engineer, for his contributions to the development of turbosuperchargers. Bruce E. Del Mar, Douglas Aircraft Co. engineer, received the junior award for a paper presented at the Society's annual meeting.

C-82 Orders Give Fairchild \$80,000,000 Backlog

Backing of Fairchild Engine & Airplane Corp. now at \$60,000,000, most of it in military orders for the C-82, President J. Carlton Ward has announced. Despite this, 1945 sales and earnings are expected to be considerably below 1944 figures, he stated.

The company is paying a 30-cent dividend on common stock on Dec. 28, and a semi-annual dividend of \$1.25 per share on the \$2.50 cumulative preferred stock on Jan. 1. The dividend on common at the third paid by the corporation, others being declared in 1943 and 1944.



Three great spark plug features (1) Direct contact seal design, seals against wet cylinder walls. (2) Deep down nickel alloy center electrode tip. (3) Improved copper coated outer electrode. (4) High dielectric strength and impedance. (5) Greater resistance to "corrosion." Auto-Lite's exclusive material.



Auto-Lite distributors are available for both continuous and intermittent duty. They more than meet the most exacting Government requirements, giving dependable operation under extreme conditions of vibration, acceleration and shock. Both types available are operative from 180 to 360 degrees F.

Auto-Lite

EQUIPMENT FOR AIRCRAFT

Whenever Allied fighting planes are flying you'll find electrical equipment precision-built by Auto-Lite. Its quality proved in the toughest test of combat — equipment working from long years of aerial development and research. Pictured here are a few examples of such equipment.

THE ELECTRIC AUTO-LITE COMPANY
SARASOTA, ONTARIO
TORONTO 1, ONT.



Auto-Lite batteries are available in both 12 volt and 24 volt sizes. All are equipped with special vent plugs and assembled in either hard rubber or metal-bodied aluminum containers. The heavy duty battery has a capacity of 100 A.H. at 8 hrs. rate; others have capacity of 31 A.H. at the 5 hr. rate.



The 5 mm. high tension ignition cable (left) has stainless steel conductor, rubber insulation, glass shield, neoprene sheath. V-type Champion spark plug (center) has best available, open-roving qualities. Foretype magnet wire (right) has a special enamel with aluminum resistance 3 times that of conventional enamel wire.

AUTO-LITE

TUNE IN THE AUTO-LITE RADIO SHOW STARRING DICK HAYMES — SATURDAYS 8:00 P. M. — E. T. ON C. B. 5

PERSONNEL

CAA Appoints Warlick Regional Counsellor

May John F. Warlick (photo) has been appointed regional counsellor for the Civil Aeronautics Administration. Warlick, who recently was discharged from the Air Transport division of AAF, will act as liaison between A. & K. Co., assistant administrator for field operations, and the regional office. Before joining the AAF Warlick was with the Eastern Aircraft Co., and later joined the American Branch of the Consolidated Aircraft Co. as a junior aeronautical engineer. In 1939 he was appointed technical assistant to the director of safety regulation of CAA.



W. E. Larned has returned to United Air Lines from the Navy. After a demobilization program he will assume the position of assistant superintendent of eastern flight operations. Larned was selected in 1943 by the late Secretary of the Navy, Frank Knox, as an inspection tour of the European war theater and wears the Secretary of the Navy citation ribbon.

W. Thorne Barnes (photo) has been released from active duty in the Navy and has returned to American Airlines as regional agency manager for the western states and Pacific area. Barnes has been with American for 15 years. During the war he was transportation officer on the staff of the command, Naval Air Transport Service, Pacific Wing, Atlantic Wing and West Coast Wing.

Carl Jess B. Bennett, former sales executive for the Curtis Publishing Co., has joined Bessell Aircraft as director of research and planning after five years of active military duty. A veteran of World War I and chairman of the magazine committee for the Reserve Officers Association, Col. Bennett was called to duty in 1940 to write a series of articles outlining the War Department's program for reserve officers.

He held many positions in the AAF.

Bessell M. Lathrop, formerly executive assistant to the general manager of the National Aircraft War Production Council, announces the opening of law offices in Washington at 696 American Building.

Comdr. Thomas M. Jones has been named a vice-president of the Air Power League. Jones was ordered from the Navy in 1938 and has been active in aviation since 1935. He was assistant operations manager for American Export Airlines, Inc., before he was called back to active duty in the aviation planning division of the Office of Chief of Naval Operations.

Leather L. Kellogg (photo) has been named assistant to the regional traffic manager for TACA, airlines. Kellogg formerly was assistant general traffic manager of Air Cargo Transport and Shadown Airlines of New York, Col. William S. McDuffie has been named a vice-president of TACA.



Col. McDuffie was in charge of AAF procurement activities during the war at all Ford plants in Detroit and later for the eastern district at New York for Air Technical Service Command.

Col. Gerald M. Smith has been named executive assistant for TACA Airways, to work on administrative matters. Smith has been with the Air Transport Command since 1942 on the "Hump" operation. He later served as aide and co-pilot to Brig. Gen. Thomas G. Hardin, now executive vice-president of TACA.



William Clark, assistant to Col. William Harding, director of information for the surplus aircraft disposal program, has resigned to return to G. S. News where he will be associated with the new publication, World Report, a weekly magazine. Clark was with the Coordinator of Inter-American Affairs for three years before joining Col. Harding.

Therese C. Calmesa (photo), who recently resigned as vice-president



in charge of sales of Northrop Aircraft Corp., has announced she is leaving for Sao Paulo, Brazil, to found her own business there. She has been named South American distributor for Northrop Aircraft, Northrop-Gummes division of Northrop and South American representative of Northrop Aeronautical Institute. She also expects to establish an aircraft service and maintenance base in Brazil.

Henry E. Gorman (photo), airplane manufacturing executive and inventor, is retiring from Douglas Aircraft Co., after 28 years service. For the past five years, Gorman has been plant manager of the Santa Monica factory. Starting as a mechanic, Gorman was one of the three men originally associated with Donald W. Douglas in 1920 in forming the company.



Capt. H. C. Kristofferson has been released from the AAF where he served as assistant chief of staff, ATC headquarters, to become operations manager, Pacific-Alaska division, Pan American Airways. He succeeds Capt. G. J. Strickman who has been transferred to a similar position in Pan Am's Latin American division. Other PAA appointees include R. K. Barnes, formerly industrial relations manager, Pacific-Alaska division, named administrative assistant to the division manager; Frank M. Hink, formerly aviation maintenance superintendent, Honolulu, as industrial relations manager; and S. B. Hughes, district sales manager at Seattle, prior to the war, assistant aviation traffic manager, Pacific-Alaska division. S. B. Smith has been named division sales manager; E. M. Holmes, passenger traffic superintendent; J. S. Fuch, division express mail superintendent; and Edgerton Scott, division construction superintendent.

R. Humbert Urrutia has been named publicity assistant for TACA Airways Agency, Inc. Urrutia will have charge of agency publicity for Latin American countries. He is a former newspaperman in South America. He served in the U. S. Army during the war.

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THE HEAVY AND HEAVY ROADS

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TWA Loan Definitely Establishes Financial Maturity Of Airlines

Credit agreement with Equitable Life Assurance Society is largest ever swung by any air carrier, is unsecured and avoids dilution of the existing equity.

Airline financing took a long stride forward when Transcontinental & Western Air, Inc., recently sold \$30,000,000 in 3 percent debentures to the Equitable Life Assurance Society of the U. S. This loan was noteworthy as it definitely establishes the financial maturity of the air transport industry and the ease with which it can now secure credit. It is particularly significant that in the past loans of this character usually were extended only to those companies with backgrounds of stable earnings and outstanding security. TWA has the most enviable earnings record among the "big four" of the airlines and has embarked on a huge expansion program.

This credit assumes additional importance for a number of other reasons. It represents the largest amount of money made available to any airline at one time. It is unsecured and permits the creation of a new debt class. It avoids the dilution of the existing equity. **Other Deal.**—The largest previous debt financing took place when PCA marketed \$10,000,000 in convertible 3½ percent debentures in September, 1944. Top place in equity financing went to United Air Lines when it sold slightly more than \$10,000,000 in 4½ percent convertible preferred stock back in January, 1944.

In the past, airline loans designed to finance equipment purchases were usually secured by some form of chattel mortgage or equipment trust arrangement. Pan American and American acquired a substantial proportion of their equipment in this fashion. TWA, in recently so doing, arranged an unprecedented \$1,500,000 loan secured by a chattel mortgage on its five rebuilt Stratliners. This loan was based upon 55 percent of the

net depreciated cost of the collateral, with interest averaging 1.66 percent for the five-year period.

Purpose.—The current TWA loan will be used to finance the purchase of 36 Constellation As such, it is expected that the obligation will be liquidated through earnings generated by this equipment. At least, depreciation charges on these planes, if covered by operating revenues, should facilitate the retirement of this credit. This is undoubtedly behind the strong sinking fund requirement of \$2,000,000 a year, starting with June 1, 1947. The company has the option of increasing this retirement to \$4,000,000 a year.

Previous large-scale sale of airline debentures and preferred stock to the public necessitated considerable "sweetening." The chief attraction proposed in the conversion privilege. Even the PCA income debentures have the characteristics of a preferred stock rather than that of a bond. Ultimately these forms of convertible securities become common stock. As a result, considerable dilution of the equity takes place. Yet, prior to the current TWA deal, it was virtually impossible to market a straight orthodox preferred stock or debenture issue of an airline.

Airline.—For this reason, the TWA loan represents airline financing on the part of the airline. The existing equity will avoid dilution and any net earnings will accrue to the stockholders. The Hedges Tool Co. was last reported as owning 448,056 shares or 43.1 percent of the total TWA stock. Perhaps it was this potent ownership interest which served as one of the strong arguments encouraging the insurance company to extend the loan.

It is interesting to note that prior to this credit, TWA's total resources were less than the amount of the loan. The company's capital structure will assume roughly 50 percent debt and 45 percent common stock. This will more closely approach a railroad or public utility capital structure and impart considerable leverage to the airline's operations.

Additional Moves.—It is likely that even more financing may be undertaken by TWA. Early in 1945, an executive of that line forecast his company's capital expenditures and requirements by 1954, for domestic operations alone, would aggregate about \$100,000,000. Informed financial sources look for the capital requirements of the entire air transport industry during the next five years to total between \$400,000,000 and \$750,000,000. This compares with the industry's present available capital of about \$100,000,000.

The airlines probably will draw these needed funds through a combination of various media. At one time, it was believed equipment trusts, as used widely in the railroad industry, would find an established place in airline financing. However, as long as large credits are forthcoming without the liens peculiar to equipment trusts, the latter form may be slow in developing.

Investors Eager.—Some attempt may be made to issue non-convertible or straight preferreds. This is preferable to creating senior debt. Further, while a senior equity is created the previous practice of diluting the common stock is avoided. An airline would need considerable courage, however, to attempt such pioneer financing.

Currently, there is a plethora of funds seeking investment outlets. Along with the insurance companies, banks would like to obtain some airline loans. Commercial banks, however, find it difficult to extend long-term credits. Perhaps five-year loans in the nature of revolving credits will find numerous takers.

The airlines are now enjoying high favor in the investment and speculative markets and should experience little difficulty in obtaining the required funds under existing circumstances. For proof it is only necessary to look at the level of airline share prices and the rate of TWA's current insurance loan.

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Horizons unlimited

What does a Boeing engineer look like? Talk to one for ten minutes and his pencil will soon explicate the complex workings of his mind. . . . it smooth, clear, fluid curves of better flow airfoil, streamlined engine nacelles and wingroot tail fin.

For him is the kind of imagination that never rests. In the absorbing task of designing a new and better airplane he will stay at his desk days and nights without sleep. His figuring it is a continuous measurement, but he thinks in terms of the infinite. His horizon sets unlimited horizons—more than 30,000 of those—translated the Army's dream of a

super bomber into the peace-making fact of the B-47. They put millions of gleaming man-hours into a battle that never made the headlines but surely affected the course of history. Again and again they came up against black walls—stared over—found ways to do what had been the impossible.

You can't stop such men. You can't suppress their fierce enthusiasm as they pursue technical skill. Now that the war is over, they'll go right on creating and improving airplanes for the greater peace-time age of flight—the commercial transports and military aircraft that will move and keep America strong in the air.

Already the prototype of the first true super transport—the Boeing Strato-cruiser—has established new records for speed, performance and economy. Incorporated in its design are secrets of aerodynamics and structural advance never developed and proved in any other plane.

In peacetime days ahead, the special abilities in research, design, engineering and manufacture which have given Boeing leadership in the big bomber field will bring you the Strato-cruiser and other super-transporters in air transport. You can be sure that any airplane "Back by Boeing" is built to last.

SPECIAL AIR SERVICES

CHARTER NON-SCHEDULED INTRASTATE

Exemption As Common Carriers Asked for Pioneer Cargo Lines

U. S. Airlines attorney's presentation at CAB oral argument urges classification which would not subject companies to economic regulation until after notice and hearing.

Pioneering air freight companies which already are flying should be exempted under the Civil Aeronautics Act as air cargo common carriers, which would permit them to operate on schedule. Under present conditions no scheduled carrier may operate without a certificate of public convenience and necessity from the CAB, a process which requires thousands of dollars and several years' time. The cargo operations now in service must not use a schedule.

This was the presentation to the Board in its recent oral argument on non-scheduled aviation as given by U. S. Airlines, Inc. The company's attorney, Albert Beitel, agreed with virtually all other operators of non-scheduled air services that the future of non-scheduled aviation can be assured best possible development if the Board will retain the present exemption order and keep regulation to an absolute minimum.

Proposed—Beitel asked, however, that the Board establish a classification of air cargo (common) carrier which would be subject to Section 401—the economic regulations—of the act, until after notice and hearing that further control is required. Air cargo carriers would be subject to all other applicable provisions of the act. This type of exemption, Beitel contended, permits a free pioneering of the field, but also requires cargo carriers to comply with all of the provisions of the act except that requiring a certificate.

U. S. Airlines will transport fruits and vegetables from Florida to the northern industrial areas in Douglas C-47s, returning with manufactured and other goods.

Present—"It now appears that the cargo field will be developed to perhaps a greater degree than the field of transporting passengers

on a non-scheduled basis," Beitel says. Few, if any, of the new cargo lines will require mail contracts or other government money, but will these carriers divert air express revenues from the presently operating airlines.

"The air cargo carrier will transport quantity freight, not small express shipments," he asserts. The business the air cargo carrier will attract is new business, which has not heretofore moved by air except on a limited experimental scale.

Exemption—It is not easy to conform to air cargo service under existing regulations. The planes, the equipment, the personnel, the procedures today. The non-scheduled exemption order does not set all the rules either. That order permits a recurrent service, but the shippers want a regular service. The exemption order

states the carrier must either obtain a certificate of public convenience and necessity or certify the operations to those of a private carrier," Beitel says. "Even if an objection is heard, some objection can be expected. 'It is evident, but the trouble with the law is as that application for other types of air service will be provided and facilities established for it and a Board decision came out a year or two have elapsed. When U. S. Airlines does not know what the certificate should contain, and whether the carrier should be exempted by statute or by order. Nobody will know until after there is some data based upon actual experience."

Regulation—"This was the question I have faced the United States Freight Co., when it requested its air freight forwarding activities now used to be used as a basis. The company asked for a special exemption order so that it could continue environmental operations. This was denied because it would have been an unfair advantage to one operator."

"The United States Freight Co. had a few ships. They collected small packages of cargo, consolidated them, and shipped them at quantity rates. The rate in the individual shippers was less than the air express rate. But they had to ship quantities."

"Now, U. S. Airlines has had a similar rate for several years. They want to take the big air cargo service, but they are prohibited from doing so without a certificate of public convenience and necessity."

Exemption—Beitel explained the operation of cargo service on a private contract basis.

"It seems to be fairly well agreed that private carriers are not subject to terms of Title IV of the act. It is not so much, however, to distinguish between a private and a common carrier. The determination of whether an air carrier is or is not a common carrier is not going to be an insurmountable problem. The ICC has had considerable difficulty in applying the statutory definitions to its own rates, and the CAB will have to have a decision upon the common law distinction."



PLAN AIR PICKUP IN COLOMBIA:

Equipped by All American Aviation, an Aero Anson, two-engine craft, is going into pickup service in Colombia for Lindeas Nacional de Servicio Aero (Linas) of Bogotá. Arrangements for the installation were made by Capt. Ernesto Reinosman and Mariano Obregon of Linas on a trip to this country during which they traveled with American's pack master (above). Left to right, Maj. Halsey R. Bazley, retiring president of All American, Capt. Reinosman and Mr. Obregon.

Can a contract air carrier make 30, 50 or 100 different contracts? Nobody can be sure until after extensive litigation. Must the contracts be identical? Must they provide for fair pay? Must they be in violation of public policy? These questions of course, can be solved by the application of certain standards. However, the Interstate Commerce Commission has said that it is not its business to do so. They cannot agree. It is reasonable to think an operator's opinion, with respect to one question, may not be shared in accord with the opinion of the Board, and he may be knowingly violating the law and putting himself at risk.

Public Consideration.—There also is an important public consideration. Private cargo service is not expected adequately to develop in the field of air cargo and being in the field of air cargo is a public service. When U. S. Airlines carries fresh fruits and vegetables from Florida to other parts of the country, it is primarily that of a private carrier. The service is a service of shippers will do several airplanes. As the service is used by a number of shippers, it is a public service. Fresh fruits and vegetables, however, the service may be primarily that of a public service. There should be no doubt that the service is a public service to which the service will be made available in the country, if a truly private cargo service should be made available to all shippers who desire to use them. This seems to take of the con-

"When the aircraft returns to Florida with manufactured products, the operation even indirectly may be that of a common carrier. The volume of goods that could be carried by the air cargo carrier can be increased as the service is made available to all of the manufacturers at the northern terminals. The goods contained in the second indicate that the volume of a substantial volume of manufactured articles susceptible of being moved by air under contract with firm or an individual. Air cargo service could be secured by increasing the number of shippers. A general expansion of the service, however, might ease the effect of pulling the air cargo out of the category of a common carrier."

Regulation. "U. S. Airlines believes the Civil Aeronautics Board can derive civil aviation by encouraging air cargo operations. The best means method is by general exemption order. U. S. Airlines suggested at the hearing that the Board establish a classification of air cargo carriers. Air cargo carriers can be readily defined as air carriers which engage solely in the transportation of property (except mail) by air.

"Then it was suggested that all air cargo carriers be exempted from the provisions of Section 401 of the Act, until, after the notice and hearing, the Board should find that further rule, regulations or orders are required.

"Air cargo carriers will be subject to all of the other applicable provisions of the Act. This type of exemption order permits a free and full pioneering of the field. At the same time, it requires cargo carriers to comply with all of the provisions of the Act except the obtaining of a certificate."

"There may be some large carriers who will be engaged in private operations, but the advantages of the new 2000 carrier operations would lead most of the carriers to operate within the exemption rather than without the law."

Services Retaining Surplus Beechcrafts

The non-scheduled and charter industry has shown intense interest in any future plans of the Army and Navy to release surplus some of the hundreds of twin-engine Beech transports which were built for the services during the war. Surplus disposal authorities in Washington see little hope, however, that many of these popular ships will be released in the near future. The air services are utilizing them for personnel transport, and consider them in more demand than many Douglas have been scrapped or turned over to surplus officials. The Beanches represent the only high speed, comfortable transports left at some installations.

Only 14 AT-3s have been declared surplus, and only six of these were turned over to RFC. Only 12 C-46s were declared, of which six were delivered and sold. CAA bought two of those.

3 Possible Use—Another reason Army and Navy officers gave for holding these types is the professed intention of turning many over to whatever state guard system is to be established.

The only purchasers of AT-4s who are on record are Ralph P. Wrenly, Columbus, Ga.; James P. O'Brien, Bedford, N. Y.; Col. Frank Kurtz, Albuquerque, N. M.; Fleming A. Waters, Dallas, Tex.; Aero Corp., Atlanta; and Delton L. Mansfield, Grand Forks, N. D.

three planes; Midwest Aviation Service, Oklahoma City, two; CAA, Washington, two.

C-47 Sales Indicate Many New Lines

A high percentage of individuals and companies purchasing or leasing surplus C-47 transports from Reconstruction Finance Corp. expect to set up non-scheduled cargo services, according to RFC officials.

The latest list of C-47 purchasers is considered the best index to new operations, some of which have not yet advertised or announced business plans. Following is the complete list of purchasers, except for U. S. scheduled airlines, whose transactions have already been published.

Air Campo Transport Corp., Empire State Bldg., via an investment, one bought
Ray Farrell, Waldorf-Astoria Hotel, New York City, one bought
Oliver Klinek (ARCO), Boca de Noya, S. A., one bought
Harry Playford, St. Petersburg, Fla., three bought

Civil Aeronautics Administration,
Washington, one sought.
John Ellis, c/o Southern Airways,
Atlanta, Ga., one sought.
John J. Gorman, c/o Central Airways, P.O.
Box 100, Omaha, one sought.
Laurie Haler, 24 Kingsbury Place,
St. Louis, Mo., one sought.
Edward O. Collins, 2000 Valley
Spring Lane, Tulelake, Calif., one
sought.
Jack Zimm, 250 and Ave. Rock Es-
tate III, one sought.
Walter K. Jones, 5303 Dutton Ave.,
Atlanta, La., one sought.
W. L. L. L., c/o American Express, Wash-
ington, D.C., one sought.
Gerald F. F., one sought outright but
willing to accept installment.
Aerovias Brazil, Rio de Janeiro,
Brazil, one sought.
H. A. Adams, Inc. (Harry Plumb),
P.O. Box 100, Little Rock, Ark.
Metropolitan Purchasing Commission,
Room 412, 412 3rd St., New York 36.

Howard J. Korih, Miami Springs, Fla., was bought on installment.
 Gulf Oil Corp., Al Williams, Gulf Bldg., Pittsburgh, Pa., was bought.
 Jean C. Kopp Co., 608 E. Palmetto St., Baltimore, Md., was bought on installment.
 Evans Aircraft, Inc., Rochester, N. Y.

Trans Airways Corp., St. Louis, Mo., was bought outright, then leased.

Trans-Canada Air Express Co., Newark, N. J., one leased.
 Trans-Canada Air Corp., New York, N. Y., two bought on installment.
 Air Carrier Supply, 1300 14th St. N.W., Washington, D. C., one bought.
 Trans-Canada Air Lines, 18 Rockefeller Plaza, N. Y. C., two bought.
 Aero Enterprises, Tulsa, Okla., one bought.

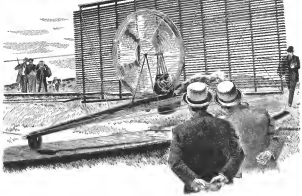
Capt. F. J. Haling, U.S.M.C., Cherry Point, N. C., was bought.
Wells Air Service, Inc., Baltimore, Md., was named.
Col. John M. Whalley, New York, N. Y., was bought.

Mexican Air Pioneer Plans Helicopter Service

A proposal to use helicopters to overcome difficulties of mountainous terrain in establishing better communications with many sections of Mexico is being watched with interest in Mexico City.

William L. Mallory, known as a pioneer in Mexican aviation, says he will order 25 helicopters as soon as manufacturers can put them on the market. He proposes to establish 10 routes for mail and passengers. Development of regular airfields or strips would be costly in most of the areas the new company would serve, but helicopter landing areas could be cleared easily.

Horatio F. Phillips of England, built the 150-hp model to test his theory—"curved" in 1870—that a curved surface would provide more lift than a flat surface. His wing was a series of curved disks 18 feet long by 1½ inches wide. Tethered to a circular rack, the struts on a multiplane under 40 m. p. h., lifted its weight and flew at a three-foot altitude. So Phillips proved his "new" theory—not the stream of ideas denied himself.



The Flving "Venetian Blind"

...it pioneered curved wing-surfaces

Note how man's wings have grown and strengthened. From fragile "Venerian Bird" to gay, wired biped on *machivindor*, internally-driven wing of steel, pioneered by North on 11/29.

Time on through developments like *spit flap* (Northrop, 1932) which increased the lift at wings. On to retractable *airflow* (Northrop 1944) which gave big airplanes faster take-offs, greater manoeuvrability and slower landing speeds. And now the Northrop *Flying Wing* which almost completely ignores everything in the way

Yes, revolutions in drugs came. They are a "must" for peace-loving nations as insurance against aggression. A "must," too, for cheaper, faster air commerce and transport.

Today the aircraft industry must keep strong, keep going ahead.



NORTHROP

*Creators and Builders of the **Black Widow** P61 Night Fighter and the **Flying Wing***

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In building the tubes that are the heart of electronics, Eimac brings more than a decade of experience to one of the world's oldest industries. Leather men who specify processing equipment powered with Eimac tubes can count on a double guarantee—one from the equipment manufacturer and another from Eimac.

EIMAC-McCULLOUGH, INC., 321 San Bruno Ave., San Bruno, Calif.

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TRANSPORT

Agreement With Britain Clouded Despite Conditions on Loan

"Working arrangement" appears most that can be achieved now; U. S. lines restricted to total of 500 passengers weekly; opening of "destroyer deal" buses sought.

The terms of the financial agreement under which this government proposed to extend a \$4,600,000-666 credit to the United Kingdom include an undertaking by the two countries "to reach specific conclusions at an early date" in regard to the "urgent problems" confronting civil aviation. But the status of negotiations last week hardly justified expectation that this objective would be realized.

State Department officials, in private talks, where about ready to acknowledge that the most that can be achieved for the moment is the "working arrangement" demanded by Britain. This would cover only services between the United States and United Kingdom and would serve during an interim period until a formal bilateral agreement can be negotiated.

New Elements—New elements in the situation last week were:

Disclosure by the British Embassy that in agreeing to 14 trans a week on the part of American carriers Britain specified that not more than 500 passengers could be carried weekly.

Confirmation by a State Department official that this government has sought British agreement to the opening of the 90-year leased bases, obtained in the 1945 destroyer deal, to commercial use.

Consideration by the Civil Aeronautics Board of the agreement filed by American carriers concerning the traffic conference machinery established by the International Air Transport Association.

France—A new agreement with France was expected to be announced at any moment, meanwhile, but French sources said it would not avert a possible rate controversy should Pan American Airways go through with its announced intention to increase French services on an eight-city per route basis.

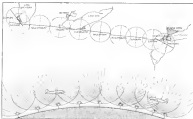
The French agreement was believed to be under study in Paris by the Council of Ministers. This would indicate that American Embassy and French air officials had completed a tentative draft. It was understood that, while France still would like to obtain some assurance on rates, the main point at issue now is the Fifth Freedom of the Air.

Portugal—The State Department meantime announced conclusion of an agreement with Portugal providing for Fifth Freedom rights on three routes: to the Azores, Lisbon and (a) London, (b) Barcelona and beyond, to Lisbon and Madrid, and to Mexico thence to Hong Kong. In return Portugal may fly via the Azores and Bermuda to New York. The arrangement in connection with the British financial agreement that civil aviation problems

would be settled at an early date may have been made with an eye on Congress. There have been increasing expressions there of late that air rights should be one of the conditions for granting credit to Britain. Consequently it was believed Anglo-American negotiations might intensify efforts to work out a bilateral agreement in time for announcement before Congress takes up the financial deal.

"Quota" Ample—But for the moment it appears Britain is having her way in the matter of an interim arrangement. Both American Airlines and Pan American spokesmen said the 500 figure would be ample for DC-6 equipment, but a shareable in principle and will retard manufacturing development in the field of large aircraft unless raised soon. In view of their temporary acceptance of the "quota," it was regarded as unlikely the State Department will do otherwise.

The State Department official who confirmed that rights are sought at the 90-year lease bases did not say whether Fifth Freedom privileges are proposed. But, in light of this government's known position, it is regarded as certain that such rights are proposed, without restrictions on number of trips. The bases are located in Newfoundland, Bermuda, Jamaica, St. Lucia, Antigua, Trinidad and British Guiana. Some may be unsuitable to commercial



VHF ON CHICAGO-NEW YORK ROUTE:

This United Air Lines diagram shows locations of VHF radio range transmitters installed by CAA on the Chicago-New York route. Below is an artist's conception of how "line-of-sight" radio directional beams overlap to give pilots a straight, "line and distance" radio along. For six operations over the route, United has installed a \$395,000 program for installation of VHF equipment in its planes.

use, but in most cases they are the best landing bases in the respective areas. So far there has been no British reply.

IATA Plan—AII deslirine the CAB had not acted on the traffic conference agreement. If the Board approves IATA's action, American carriers then would be restricted in route from the anti-trust laws.

Both American and Pan American, meanwhile, were back on five trips a week following establishment of the satisfaction of the British of a \$375 fare to London. Pan American, however, retained a \$246 rate to Ireland, as contrasted with American's \$334. As far as the British quota is concerned, both lines and they are able to handle only about 38 passengers a flight at present and consequently as a practical matter are not restricted.

British Quota—The British Embassy, in satisfying the quota, said trip regulation is necessary unless it is related to carrying capacity. It was said the quota is intended to apply only until a formal agreement is worked out. Then, presumably, a new quota basis will be established.

The State Department last week announced that The Netherlands, Sweden and Honduras recently have ratified the Five Freedoms agreement. Switzerland, Australia, Spain and Greece now have ratified the Two Freedoms agreement. South Africa, Denmark, Honduras, Greece and Spain have joined those who ratified the latter agreement setting up PICAD.

Transportation Integration Opposed By Damon

Opposition to integration of air transportation with other means of travel was voiced recently by Ralph S. Damon, president of American Airlines. Addressing the United League in Philadelphia, he said:

"Integration means that railroads may own and control air lines or air lines may own and control railroads and bus lines.

"We know that airlines could not have made its great strides if it had been tied to the vested interests of other forms of carriers."

Correlation—Damon also told the League that Philadelphia's airport terminal buildings and city-owned airport highway facilities are inadequate.

Duckworth Heads CAB Safety Unit

Col. Joseph B. Duckworth, former post commander of Beyer, Tex., Army Air Field and for ten years a first pilot with Eastern Air



Col. Joseph B. Duckworth

Lines, has been named director of CAB's Safety Bureau. He succeeds Jesse W. Lankford, (below) wartime director, who remains with CAB in charge of accident analysis work.

In the AAF five years, Col. Duckworth served as operations and flying safety officer, director of training, post executive officer,



post commander and wing commander. Under his direction a new and improved system of instrument flying training for the AAF was developed. As president of the AAF Instrument Flying Standardization Board and member of the All Weather Air Force Board, he wrote many regulations on safety in military flight.

Scandinavian Lines Finish Applications

Applications of the "Scandinavian Airline System" are routine to the U. S. were complete recently with the filing with CAB of a petition by Royal Norwegian Air Transport for two weekly round-trip between Oslo or Stavanger and New York or Chicago. The other two members of the Scan-

dinavian bloc, Denmark and Sweden filed previously.

RNAT would operate via London and, if permission is obtained, Goose Bay, Labrador, with unspecified equipment. Ennar Indahl, the airline's president, has recently been in this country discussing transport types with several West Coast companies.

U. S. Plans—RNAT, using surplus C-47's and C-55's is now flying about 5,000 miles daily in Norway and to Stockholm, Copenhagen, Edinburgh, London and Amsterdam. Trans-Atlantic operation will not be undertaken until newer and larger equipment is obtained.

The three Scandinavian countries will divide their North Atlantic airfields, maintain joint offices in this country, and may eventually pool equipment and revenues. Plans, not yet set, will be on the level to be decided upon by any agreement established under the International Air Transport Association.

CAR Revision Readied

An amended draft release of pilot route qualifications, Civil Air Regulations 40.261, is nearing completion for circulation in the industry. CAB notified the airlines some time ago that it would accept no more requests for waivers of such qualifications, according in the past because of war conditions. Plans are to adopt new regulations in a simplified version.

'Aisle of Light' Planned For Idlewild Runway

Parallel walls of light flanking an 8,449-ft. concrete runway will be utilized at New York's Idlewild Airport to maintain precise altitude schedules during adverse weather conditions.

Concerned by Adnan Koof, lighting expert of the office of Edward A. Seers, electrical consultants for the Idlewild project, the "aisle of light" was developed by Westinghouse lighting engineers. Each end of the system, currently planned for 200-ft. spacings with provision for future 100-ft. spacing, will include a 200-watt "sealed beam" floodlight with a parabolic lens to fan out light parallel to the runway.

The runway will have four 3,000-watt floodlights, a noon traffic approach signal, and a newly developed stroke generator to show new characteristics at each end



Philadelphia Evening Bulletin Photo

Men and women stop to marvel at a helicopter.

There is something marvellous about a machine that hops or moves in the sky without wings or propellers. And this forward, sideways or backward—hovers in one spot—rises or descends vertically, landing or travels with the ground, to make flying an easy step to anywhere.

The helicopter's high crowd appeal was shown (above) a few months ago in a demonstration of the Kellett XR-8 military model at Hahnemann Park, Philadelphia, under sponsorship of the U. S. Army Air Forces.

With the ease of a hummingbird, the XR-8 flew in, high over the crowd, and landed to rest in a space only 100 feet square. Then the helicopter soared straight up, bucked, swung from side to side like a pendulum, whirled, hovered finally it sped forward, at a four clip than a motor car let loose on an express highway, in complete mastery of speed, height and direction.

Just what the public's keen interest in helicopters will mean in future industrial and commercial uses for this unique type of machine is more than we at Kellett Aircraft can forecast. As the oldest American designers and producers of rotary-winged craft, we consider one of the helicopter's most valuable features something we did not design or make—in inherent "crowd appeal," even to a machine which accepts modern streamlined forms and 400 mile-an-hour airplanes without a second glance.

Operating details, including cost and payload, may postpone the widest practical application of the helicopter. However, specialized money-making applications seem close at hand. Kellett Aircraft and other important organizations in the helicopter field are devoting time, money and experience to hasten the day when these craft will meet the expectations of their most loyal boosters—the American public. Kellett Aircraft Corporation, Upper Darby, Pa.

KELLETT HELICOPTERS

Problem of Increased Traffic At Terminals Draws Attention

ATA sets up study of long-dormant proposal for jointly operated service corporation; SAE meeting hears recommendations that airlines combine and build own facilities.

Convinced that increased use of terminals alone will not be the answer to the many problems of better service at airports in handling passengers, cargo, mail and planes, the airlines are circulating plans looking toward accelerated growth of new terminals.

At the recent meeting of the Air Transport Association, the board approved a recommendation to appoint a man to study the long-dormant proposal for an airline-owned joint terminal service corporation. The person to be selected also will head up the corporation if it is decided to go ahead with the plan. Discussion centered around the Chicago airport as the "garden plot" for the initial effort.

Terminal—The airlines were urged to seek a solution of traffic handling and servicing problems at airports by several of the speakers at the recent meeting of the Society of Automotive Engineers at Chicago. One proposal by Albert F. Hume, United Air Lines architect, went beyond the plan for a jointly-owned service company.

"The airlines, individually, or where two or more serve an airport, collectively," he said, "should lease space and construct their own terminals."

We are approaching the day when the airlines will be expected to invest more of their funds in the construction of airport terminals. Where two or more airlines jointly construct the facilities, a rational cooperation

could take over the management and operation."

Separation—Hume reiterated his belief in the necessity for "unit" terminals which would handle passengers and separate them from the general public visiting the airport. He also suggested underground passenger walks to the loading ramps, and loading docks into which the plane would nose.

Speedy loading of cargo was stressed by M. B. Crawford, chief equipment engineer of United, who revealed his company is experimenting with a combination truck and belt loader.

LI Col. David W. Long, of the Air Transport Command, also discussed loading, asserting that development of ground handling machinery is not the whole answer and that design of the airplane can simplify the problem, but he laid greater emphasis in his SAE paper on a "single ground handling organization at each airport." The idea, he said is growing on every airline in the country.

Canadian Mail Rate Cut

The Canadian Post Office proposes shortly to reduce air mail rates to two-cent levels and to carry all first class mail by air. Announcement of this intention was made recently by Canadian Postmaster-General E. Bertrand during debate in Parliament on Post Office estimates.

Airport Selection Near in Detroit

Latest developments in Detroit's long-muddled airport picture seem to indicate that the Wayne County Airport (Romulus Air Base) will be the one used, possibly within three months after damage is reached.

Representatives of eight airlines entering Detroit met recently with Mayor Edward J. Jeffries and Mayor E. Smith, engineer of the Wayne County Road Commission. Smith has been especially active in advocating expansion of the Wayne County Airport to handle the largest transports. In view of these facts, announcement dropping the present City Airport, claimed to be too small to accommodate four-engine equipment soon to be in operation, was expected at any moment.

Northwest Airport—General feeling now appears to be that the Northwest Airport, favored earlier by the airlines and currently the subject of condemnation proceedings, could not be put into operation for several years, and the airlines cannot wait.

Meanwhile, the five domestic carriers centralized into Boston are eyeing with interest a controversy raging over ground transportation between the city and airport. A franchise to operate the service at a 75-cent fare has been granted the Rutcliffe Storage & Warehouse Co., Inc., owner of three eight-passenger limousines, by the Massachusetts Public Utilities Commission. Boston Elevated Railroad had submitted a bid to operate deluxe bus service for 25 cents, but reportedly was refused by the five-man commission on a strictly party rate of three Democrats to two Republicans.

Interest—Airlines interest centers not around the controversy of who should operate the service, but rather the means of accommodating their passengers.

With 125 flights per day in and out of Boston, obviously the airlines feel that Rutcliffe's limited limousine service would be insufficient and other forms of surface transportation, such as taxi or subway, inconceivable.

Concern is also felt over Rutcliffe's application for a 25-year concession for exclusive operation of this service, together with operation of all other airport services, such as handling baggage carts, gasoline facilities, etc.



A war-tried friend for peacetime flyers

IT'S a pretty safe bet that there's hardly a man who served in the Army, Navy and Marine Corps Air Forces who doesn't know Western Electric. During the war, Western Electric produced well over a million aircraft radio transmitters and receivers as well as vast quantities of other electronic devices for use in the air. This equipment has been a friend in need to our fighting men. They met it.

Thousands of these men will enter the field of civil aviation now the war is over. They'll bring with them their faith in Western Electric equipment. And Western Electric—you may be sure—will be there to give them the finest radio and other electronic apparatus for airborne and ground station service.

Buy all the Victory Bonds you can—and keep them!



Western Electric

RADIO AND OTHER ELECTRONIC EQUIPMENT FOR A WORLD ON WINGS

AVIATION NEWS • December 17, 1945

NEW TERMINAL BUILDING:

Central unit of this new administration building to be built at Hinkley Airport, Ogden, Utah, shows here in architect's drawing, will be constructed first at a cost of \$1,955,151. Wings and additional stories will be constructed as required. Of reinforced concrete frame with brick and cinder-block filler walls, the terminal unit has operational space for airlines, express, mail, weather bureau, CAA communications, management and public facilities.

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New Telecommunications Code Written at Rio Radio Conference

Articles 22 and 23 will have pledged support of American nations under convention when it is ratified by participating governments; official report now being prepared.

By BLAINE STUBBLEFIELD

"Safety of Life at Sea and in the Air," and "Facilities for Transmission of Meteorological Information" (Articles 22 and 23) will have the pledged support of American nations under the new Inter-American Telecommunications Convention, written by the Third Inter-American Radio Conference at Rio de Janeiro, Sept. 3-27, when the convention is ratified by participating governments.

An interim report was furnished to AVIATION NEWS by A. L. Lebel, Chief, Communications Section, Aviation Division, State Department, and other sources, in advance of the official American Delegation report which is being prepared for U. S. ICAO officials at Montreal.

Conference — The convention, only legally-enforceable instrument adopted at Rio, is now subject to ratification by all American governments (France and the Netherlands were not represented). A world telecommunications conference is planned for late

next year, to be followed "as soon as possible" by another Western Hemisphere conference.

Increasing aviation need for more space in the frequency spectrum was highlighted at the Rio conference. Increasing use of land lines was emphasized, to relieve wireless frequency congestion.

Stipulations — Articles 22 and 23 of the convention call for assurance that adequate radio services will be established and maintained, or licensed, by each government, to promote the safety of life at sea and in the air, and for the establishment, and arrangement for use of, telecommunication facilities for transmitting and receiving meteorological information in accordance with regional, and bilateral, agreements among the national meteorological services concerned.

The conference adopted one resolution of importance to aviation, for consideration in the future. It invited American countries to accept the principle that utilization

of frequencies granted to aeronautical services by international radio conventions is a matter for determination by the competent international and regional civil aviation organizations.

Proposals — Two recommendations were offered: That all records of the Rio conference dealing with aviation be submitted to ICAO, and that regional commissions meet to discuss technological and frequency needs for meteorological services.

The conference wrote several recommendations and suggestions, in which it did not wish to take a final position at the time but which should have the attention of interested governments. They include:

► Articles 3, 4, 5, and 6 of the 1940 Santiago Agreement, which deal with the use of 500kc as a distress frequency, frequency tolerances, non-essential radiations, and elimination of interference from electrical equipment, should be retained.

► Certain route frequencies and flight safety installations is a matter for attention by ICAO.

► Redefined Santiago on four more radio frequencies below 5,000kc to serve continental air routes.

► Redefined Santiago on revision of air routes into sectors for purpose of coordinating air traffic control and making efficient use of frequencies.

► Redefined Santiago to lay stronger emphasis on necessity for facilities (including frequencies) for efficient long- and short-range aviation communication.

► Proposed, for consideration by world conference a scheme of priority of radio services: (1) those involving preservation of life and property, where other means of communication are available; and (2) essential communications services which must use radio because no other medium can be used.

A tentative table of radio frequency allocations was submitted for study by interested countries.

Branniff Cuts Express Rate

Branniff Airways has filed with CAB a supplemental tariff to reduce its international air express rates between four Texas cities and Mexico City. Effective Jan. 10, rates from Dallas and Fort Worth will be cut from 40 to 34 cents a pound, from San Antonio, 35 to 30 cents a pound, from El Paso, 35 to 34 cents a pound.



Solar Exhaust Manifold "In Action"

THE ABOVE PHOTOGRAPH, taken in complete darkness without artificial lighting, dramatically shows the intense heat Solar airplane exhaust manifolds experience in service. This punishment goes on hour after hour for thousands of hours—a striking testimony in Solar workmanship.

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VETERAN TRAINING AT TCA:

Seasoned war veteran combat and transport pilots coming back to civilian aviation duties are taking six weeks training courses at Trans-Canada Airlines headquarters at Winnipeg before being aboard TCA aircraft as second officers for at least six months. The veterans are taught to fly on conventional standards, study weather, radio, mechanics of TCA aircraft, airline procedures. Photo shows a class, some still in uniform, studying radio range flying under TCA instructor J. Menckes (second from right).

American Grants 10.7% Pay Raise

Without waiting for settlement of a jurisdictional dispute among four labor unions for designation as bargaining agent for American Airlines mechanics, AA recently took the initiative and granted pay increases averaging 10.7 percent.

Raises include six paid holidays, extra pay for night shifts and for work on closed holidays. Augmenting the raises will be an additional, automatic 20 percent increase in hourly pay Jan. 1, allowing reduction to a 40-hour week at no decrease in take-home pay.

► **Election**—Announcement of pay increases came after notification by the National Mediation Board of its inability to certify a bargaining agent following an election in which none of the four unions—United Airline Mechanics (UAW-CIO), International Association of Machinists (AFL), Transport Workers Union (CIO), and Air Carrier Mechanics Association (independently)—received a majority of eligible votes cast.

Current indications are that another representation election will be invoked by TWU, probably within the next month. AA had been refused a request for a run-off election between the two highest unions, TWU and ACMA, in order to assure a majority vote.

ACMA, backed by the Air Line Pilots Association (AFL), received on write-ins 837 of the 2,348 votes cast, trailing TWU by only 18. It appears likely that ACMA would pick up some 50 votes cast previously for IAM should the latter drop from the next ballot.

► **Overseas Action**—American Overseas Airlines, meanwhile, has announced a new wage agreement providing average wage increases of 11 percent for its mechanics. Reached with UAM, the agreement also specifies orderly settlement of grievances, no lockout by management and no strike by the union until procedures under the contract and Railway Labor Act have been exhausted. Rates are retroactive to Oct. 1, and are also augmented by a 20 percent raise to cover reduction of the work-week.

NWA Officials Re-elected

All officers of Northwest Airlines were re-elected at a recent meeting of the board of directors. They are: Cecil Hunter, president and general manager; E. L. Whyatt, vice-president; and J. H. Gorman, treasurer; George E. Gardner, vice-president, operations; K. R. Ferguson, vice-president, engineering and planning; R. D. Hallmark, vice-president, traffic; A. E. Fizer, secretary; L. S. Holstad, assistant treasurer; and Camille L. Stein, assistant secretary.

CAL Tulsa-El Paso Line Set to Start Feb. 15

Integration of service over a new air route linking Tulsa, Okla., with El Paso, Tex., by Feb. 15 is the goal of Continental Air Lines.

Granted last May by CAB in its Memphis-Oklahoma City-El Paso decision, the extension of CAL's AM 29 from Hobbs, N. Mex., to Tulsa will bridge together its present routes. Survey trip over the new route was made last week.

► **Other changes**—Meanwhile, other carriers have reported the following recent service changes to CAB:

American—Quoted service to Battle Creek, Mich., on AM 1, effective Dec. 30.
Continental—Using all DC-2 equipment, effective Dec. 1.
Eastern—Added one round trip daily between St. Louis and Miami, effective Dec. 1.

National—Added one roundtrip daily between New York and Miami, effective Dec. 1, and inaugurated service to Washington, D. C., on AM 10, effective Dec. 30.

Pan American—Added Indian, Port-au-Prince, to its northern route, effective Dec. 4; and will add one roundtrip daily between Miami and Havana, Havana and Manzanillo, and Mexico and Guatemala, effective Dec. 15.

PCC—Added one roundtrip daily between Washington and Chicago via Detroit, Norfolk and Pittsburgh via Washington, effective Dec. 1.

United—Suspended service to Red Bluff, Okla., on AM 15, effective Dec. 1.
Western—Inaugurated service to El Paso on AM 25 and added three roundtrips daily between Los Angeles and San Francisco, beginning Jan. 31, effective Dec. 1.



Eastern Asks Transcontinental Route: Eastern Air Lines' proposal to link the Pacific Coast with the southeastern part of the U. S. is shown on this map filed with its application (AVIATION NEWS, Dec. 10).

Solid line is Eastern's present system. Heavy dash line shows extensions requested in the current application and the light dash line shows routes asked in the Latin American and Florida cases.

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Dissolve The Military, Dictatorial IATCB

WHEN is civil aviation to be freed of the war-born Interdepartmental Air Traffic Control Board which, with its military and naval representatives, continues to hold virtual veto power over all navigable airspace?

The board has not a shred of legal justification for its existence. It has usurped, and continues to grasp on, the powers granted CAA and CAB by the Congress.

The IATCB holds dictatorial sway over all matters of civil airways and facilities, despite Section 323 of the Civil Aeronautics Act which grants these powers to the administrator. The IATCB controls issuance of air carrier operating certificates and conditions of operation, yet Section 604 of the act specifically gives these duties to the Authority, along with the rights of CAB in Title VI to prescribe air traffic rules. The IATCB has attempted to move into the area prescribed by Section 1101, giving the administrator the right over notices of construction or alteration of structures along or near the civil airways.

Although the board's origin popularly is ascribed to an executive order from the White House, it had no such legal birth. President Roosevelt on March 8, 1942, merely wrote a letter to the Secretaries of War, Navy, Commerce, and the chairman of the CAB citing a great increase in aviation activities which called for full coordination in the use of all aviation facilities and navigable air space. He proposed an interdepartmental board, and the text of the letter clearly indicates a clearing house of information: "Accordingly, all branches of the Department of Commerce should keep the board continuously advised of any action contemplated, such as gunnery and bombing practice, or of prospective plant locations, or airways which may affect navigable air space."

Effective April 1, 1943, the secretaries issued an order memorandum. This resulted from a second letter from the White House, suggesting "further strengthening" of the board. The secretaries agreed "to continue to cooperate fully in strengthening the position of the board by having the personnel of their respective agencies refer to the board all pertinent matters . . . and by using their full authority to make effective those recommendations of the board which, as hereinafter set forth, are approved by the War-Aviation Committee and these recommendations of the board which . . . become final without approval of that committee." The secretaries then proclaimed

"such recommendations of the board shall be binding upon the agencies represented thereon." The parties, therefore, in the middle of a war, voluntarily committed themselves and their agencies to the dictates of the military-dominated board.

The war, however, is over. Virtually all other wartime restrictions are being lifted. Military air traffic has dropped off. Private flying has been returned to practically all defense areas on both coasts. Why should thousands of private flyers, our domestic airlines and the CAA with its 11,000 employees—7,500 of them in the federal airways system—continue harassment by a military-dominated red-tape mill which now is perpetually and laboriously determining whether it is intrinsic to the national defense if Farmer Jones keeps his Aerocra in the pasture. If this practice of Farmer Jones is deemed to be no threat to the national safety, the pasture is officially "designated."

Not generally known is the fact that any one of the four parties to the IATCB agreement may at any time write a note to the others stating his withdrawal. That would end the board. The secretaries of War and Navy, of course, will be unlikely to do this. Mr. Wallace and Mr. Pogue could well take this action in the public interest—and quickly. If they do not it must be supposed that because they must get along with the Army and Navy on other matters they will consider it in the long-range public interest to permit the red-tape IATCB to die officially by something akin to unanimous action.

Mr. Pogue's recent National Aviation Clinic address, however, gives a ray of hope that he will speed up the abrogation of this agreement, and the end of the war emergency regulations. Throughout the world, civil aviation, he pointed out, has developed greatest in the U. S., where it is free from the control of the military, yet "there appears to be developing, and sometimes with strong leadership, a movement to give the military air forces a voice in civil air matters . . . it is not clear what civil air matters may be in mind nor is it clear whether a 'voice' means an advisory voice or a voting voice."

Mr. Pogue has pointed to a significant symptom of civil aviation's sleeping sickness on airspace matters. As long as the IATCB's military members are dictating vital policy matters to the agencies given these same powers by Congress, just that long will civil aviation be strangled by the thumb of the military.

ROBERT H. WOOD

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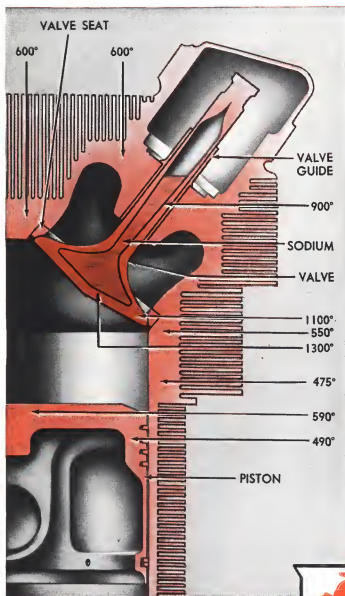
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